

Economic Impact of Mountain Biking in Whistler 2016

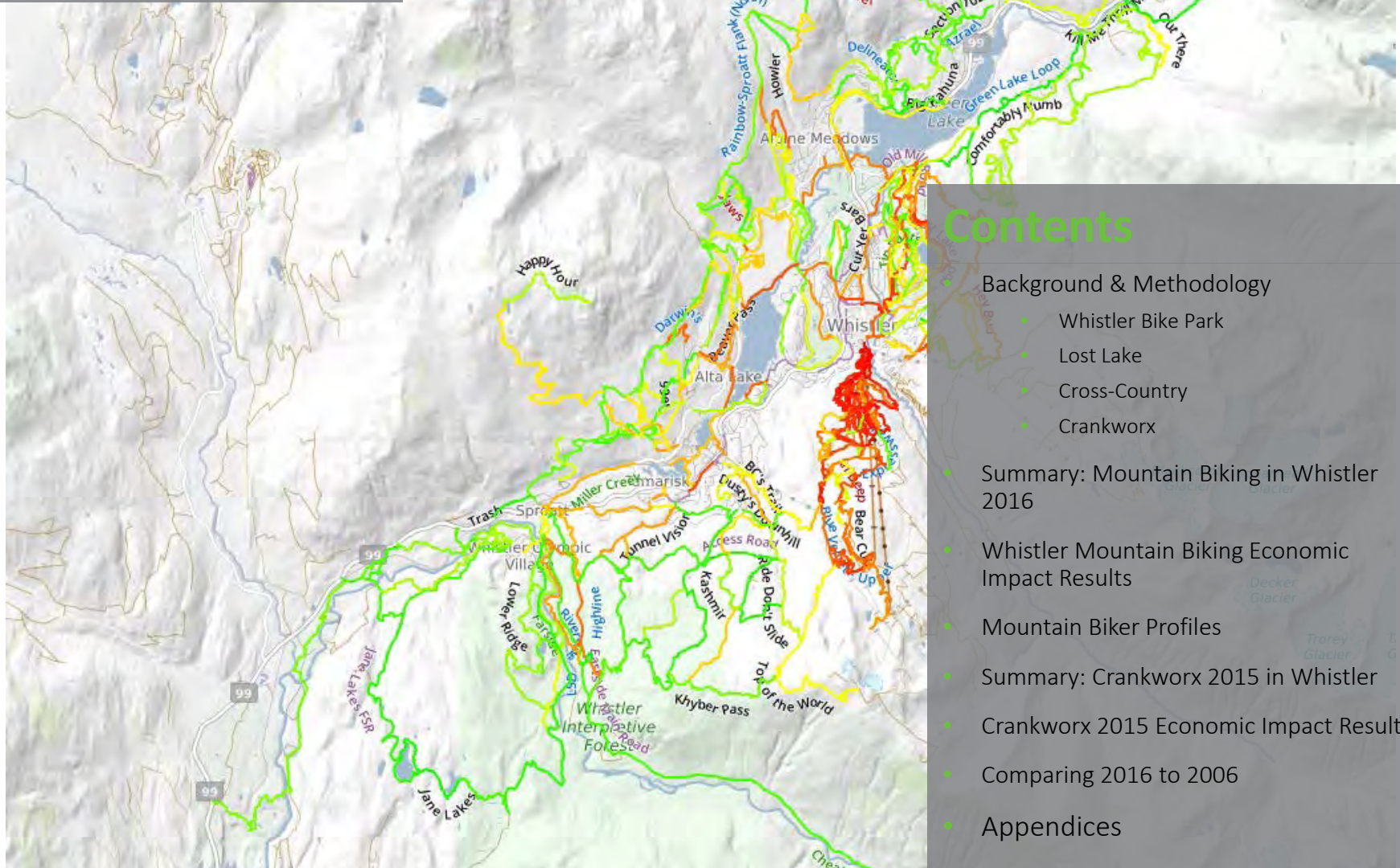


Contact

Tony Fisher

Canadian Sport Tourism Alliance

www.canadiansporttourism.com



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Objectives

The 2016 Whistler Mountain Bike Tourism Study quantifies the current size and economic impact of the mountain bike market for Whistler, and increases the understanding of the mountain bike traveller. The specific objectives of the research were to identify and understand:

- The overall economic impact mountain biking has on Whistler's economy
- The role each individual element of Whistler's mountain biking product (specifically the Whistler Bike Park, the Lost Lake Trails, the Cross Country Trails) plays in contributing to the overall economic impact of mountain biking and the decision to travel to Whistler.
- Mountain bike behaviour while in Whistler
- The travel behaviour of mountain bike visitors to Whistler, e.g. travel party, length of stay, accommodation type, other destinations visited on this trip, etc.
- The demographic profile of mountain bikers, and mountain bike visitors, in Whistler
- The ability level of mountain bikers, in a context that informs future trail planning and development



Acknowledgements

The completion of this study was made possible through the support of the following partners:

- Resort Municipality of Whistler
- Whistler Blackcomb
- Whistler Off Road Cycling Association (WORCA)
- Tourism Whistler
- Canadian Sport Tourism Alliance (CSTA)

For more information on this study, please contact:

Tony Fisher

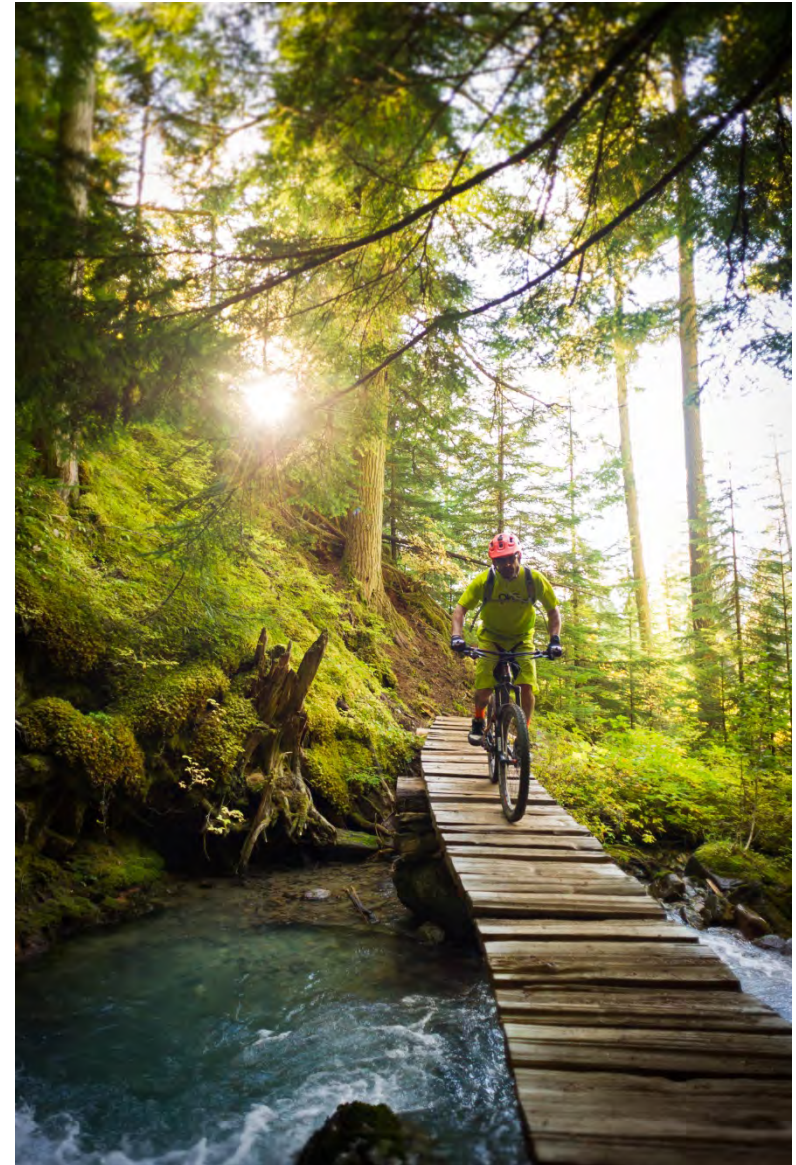
Canadian Sport Tourism Alliance

www.canadiansporttourism.com

Meredith Kunza

Senior Manager, Research & Product Development, Tourism Whistler

Email: research@tourismwhistler.com



Methodology - Overview

Three mountain bike surveys targeting riders in the Whistler Mountain Bike Park, Lost Lake Trails and Other Cross Country trails were administered throughout the summer 2015 season. All three survey components used handheld tablets (iPad or similar device) to collect and record the data.

In summer 2016, additional surveys were administered in the Whistler Mountain Bike Park and in the Whistler Village (identifying mountain bikers) to supplement and extend the data collected in 2015.

Overall trail use and rider volumes were measured using a combination of ticket/pass scan data, electronic trail counters, manual trail counts, and Trail Forks data.

Crankworx was surveyed and measured as a separate component contributing to mountain biking tourism and economic activity in Whistler.

Bikers and individuals under 18 years of age were not surveyed for this study (minimum age for survey participation).

Whistler Bike Park

- Key questions were added to Whistler Blackcomb's existing Bike Park survey. Data was collected from early June to the end of August in both summer 2015 and 2016.
- Additionally, administrative data regarding ticket and pass scans was provided for analysis.

Lost Lake Trails

- Face-to-face intercept surveys were conducted with bikers on the Lost Lake Trails during summer 2015. Surveys were conducted from early June through to mid-October. Electronic and manual counts were conducted to measure trail use.
- Face-to-face intercept surveys were also conducted with Whistler visitors in the Whistler Village during summer 2016. Lost Lake bikers were identified and segmented.

Whistler Cross Country Trails

- Face-to-face intercept surveys were conducted with bikers in the Whistler Cross Country Trails during summer 2015. Due to the practical challenge of maintaining efficiency and working within budget constraints, the study focused on a number of key, high priority access points. Surveys were conducted from early June through to mid-October. Electronic and manual counts were conducted to measure trail use.
- Face-to-face intercept surveys were also conducted with Whistler visitors in the Whistler Village during summer 2016. Cross country bikers were identified and segmented.

Crankworx

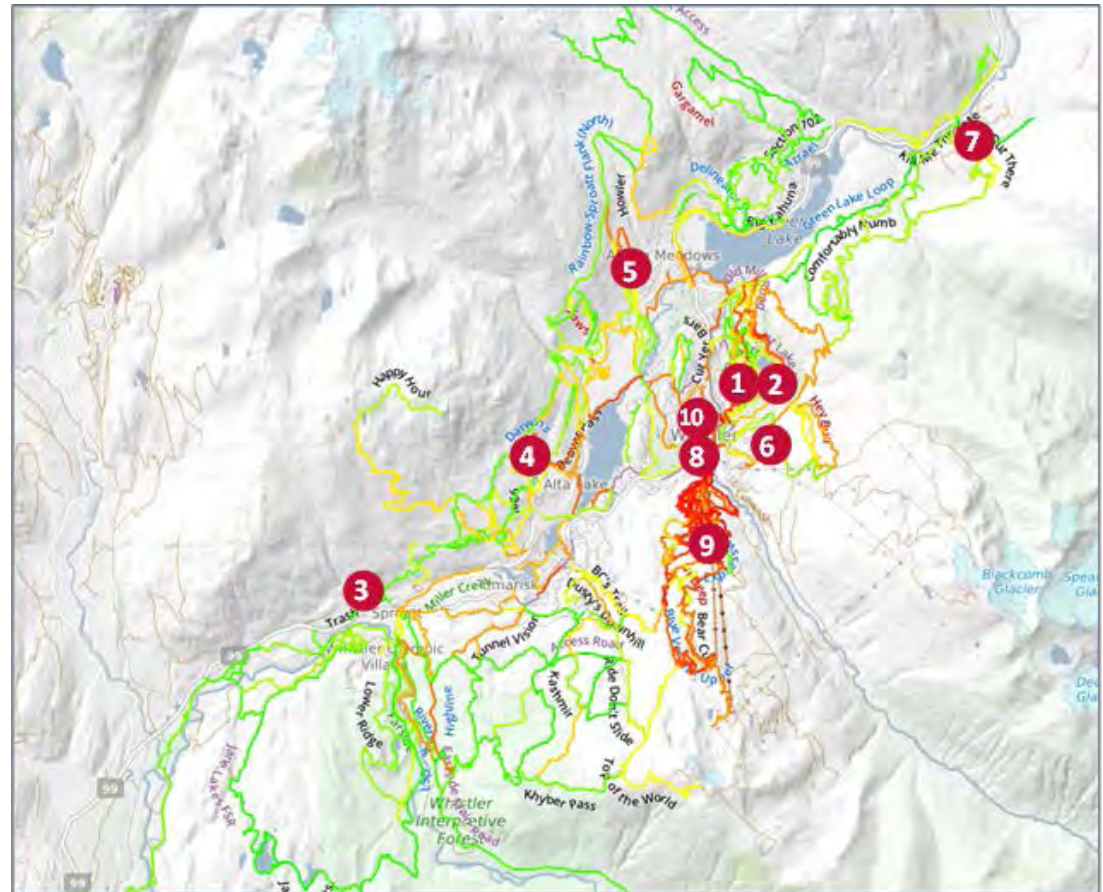
- Key questions were added to the annual Crankworx face-to-face intercept survey.
- Surveys were conducted during the festival dates in 2015.

Methodology – Survey Locations

Survey locations were selected in each area for being access points to popular trail networks, their propensity to be high volume areas, or the likelihood to intercept bikers or festival attendees.

Lost Lake	Cross Country
① Peaches / Tin Pants	③ Flank - Function
② Beach / Grand Wazoo	④ Flank - Stonebridge
	⑤ Flank - Alpine
	⑥ Other - Blackcomb
	⑦ Other - Wedge
81 shifts 367 survey hours	125 shifts 719 survey hours

Bike Park	Crankworx
⑧ Base of Gondola	⑩ Whistler Village
⑨ Mid-Station	
72 shifts 108 survey hours	24 shifts 105 survey hours



Survey Locations - Mapped on Trailforks.com Whistler Bike Trail Map

Summary: Mountain Biking In Whistler

Whistler is famous for skiing, but when the snow melts it becomes home to hundreds of kilometers of trails both inside and outside the Whistler Bike Park. Nearly 533,000 rides were made in Whistler in 2016, with 296,000 rides made by out of town travellers over during 102,500 visits to the resort.



The combined spending of out of town riders on riding activities such as the bike park and renting bicycles along with tourism related expenditures in Whistler totaled \$47.0 million, supporting \$75.9 million in economic activity in British Columbia including \$58.6 million in economic activity in Whistler. The 2016 mountain bike season supported \$25.1 million in wages and salaries in the province through the support of 488 jobs, of which 388 jobs and \$18.1 million in wages and salaries were supported in Whistler. The total net economic activity (GDP) generated by the mountain biking in Whistler was \$46.8 million for Canada as a whole; \$39.3 million for British Columbia and \$25.2 million in Resort Municipality of Whistler. Considerable tax revenues were also supported by the 2016 mountain biking season, totaling \$14.1 million. Mountain biking supported federal government tax revenues of \$6.7 million with an additional \$5.6 million in taxes accruing to the Province of British Columbia. Moreover, \$1,007,000 in municipal taxes were supported in British Columbia municipalities, of which \$935,000 was in Whistler.

Mountain Biking in Whistler

533,000 rides in Whistler

\$46.6 million in visitor spending directly attributable to mountain biking

389 Whistler jobs supported

\$75.9 million in economic activity supported in British Columbia

102,500 out of town visits made to ride in Whistler during 2016

\$18.1 million in wages & salaries supported in Whistler

\$39.3 million boost to provincial GDP

\$14.1 million in taxes supported across Canada

Background

The Whistler Mountain Bike Park is one of the world's top mountain bike parks, and makes use of the resort's ski chairlifts to shuttle riders and their bicycles to mid station where they have access to more than 85 km of trails for riders of all skill levels. The bike park saw more than 160,000 visits in 2016, with riders coming from all over the world specifically to ride at the park. Moreover, the bike park drives visitation to other trails in the region and has given rise to a number of festivals such as the Crankworx Mountain Bike Festival.

The resort also features hundreds of kilometers of trails located throughout Whistler ranging from paved valley trails to extreme double black diamond trails. Along with the bike park, these trails are a major driver of tourism in Whistler during the summer. This report measures the number of rides and visits on the Whistler trail system and bike park along with the associated economic impact of mountain biking.

Economic Impact studies measure the change in economic activity in the host city or region arising from hosting an event, festival or venue. The study calculates the amount of new money being spent in the local region as a direct result of the venue or event and then quantifies the impact this spending has on the regional, provincial, and national economy.¹



¹ The Canadian Sport Tourism Alliance's (CSTA's) **Sport Tourism Economic Assessment Model**, Professional version (STEAM PRO 2.0) was used to generate the economic impact estimates detailed in this report. STEAM PRO, which was developed in 2006, is a model that has been designed to incorporate the results of primary data collected from event visitors and the budget / capital expenditures of event organizers and others to prepare economic impact assessments. The model, updated in 2015 is based on the Canadian Tourism Research Institute's (CTRI - a branch of The Conference Board of Canada) TEAM model, which is the most widely used tourism economic impact model in Canada. The results of STEAM PRO 2.0 are fully consistent with the CSTA's STEAM 2.0 model. A more detailed description of STEAM PRO 2.0 is contained within Appendix 1.



Whistler Bike Park

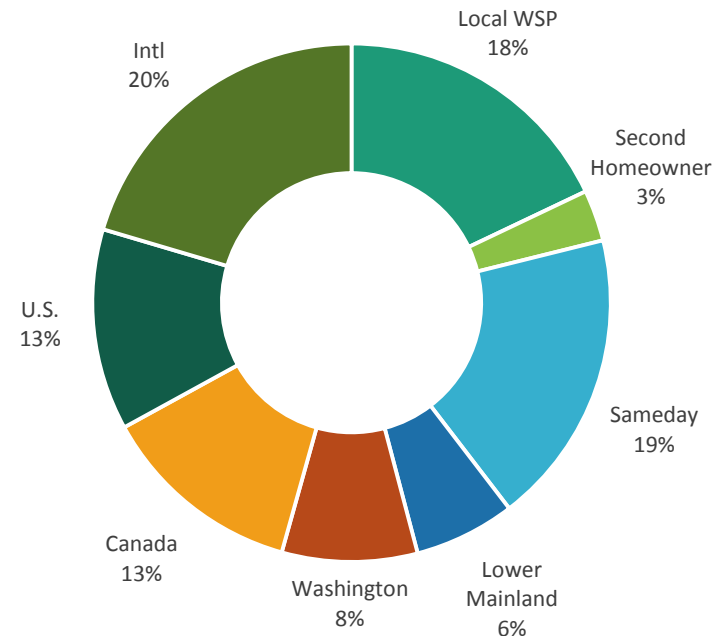
Rides & Visits

2016 Visitor Origin & Volume

Along with administrative data from Whistler / Blackcomb, the primary data source used in this study are the results from an on-site intercept survey conducted in both 2015 and 2016 that was prepared and delivered by Whistler Blackcomb in consultation with the Tourism Whistler and CSTA. The survey asked bike park riders questions about ticket type, days attended, and a variety of other questions related to the riders' experience at the WMBP. Respondents were also asked about their use of the Lost Lake and Cross Country trail systems. Out of town visitors were asked questions regarding their trip and spending in Whistler.

Rides by Origin

2016 Rides	Local Whistler Squamish Pemberton	Second Home-owner	Sameday	Overnight	Total
Total	29,910	5,328	30,794	100,757	166,789
<i>Rides / Trip</i>	27.85	5.01	1.00	4.40	2.99
Trips	1,074	1,064	30,794	22,912	55,843



Sameday Riders

As previously noted, sameday visitors were broken out from overnight visitors and were grouped together regardless of their origin. Nearly 2/3 of all Lower Mainland riders made day trips to Whistler, meaning that visitors from the GVRD and area accounted for nearly 70% of all sameday visitors.

Origin	Share of Visitors Making Day Trips, (%)	Origin of Sameday Visitors
Lower Mainland	64%	69%
Washington State	25%	15%
Canada	11%	9%
US	4%	3%
Overseas	4%	4%
Total	22%	100%





Lost Lake & Cross Country

Rides & Visits

Methodology – Lost Lake & Cross Country

The primary source of information for the trail studies were the results of on-site intercept surveys that was prepared and delivered by Tourism Whistler in consultation with the CSTA. The surveys were conducted at various locations in the Whistler trail network (Lost Lake Peaches / Tin Pants, Lost Lake Beach, Flank-Function, Flank-Stonebridge, Flank-Alpine, Cheakamus, Blackcomb and Wedge) throughout the summer of 2015. A total of 1,871 intercepts were made with 1,404 responses being collected including the responses of 661 visitors and second home owners. In addition, the study makes use of trail counters and manual rider counts collected through the more than 700 hours of surveying. The spending results of the 2015 data was updated to 2016 based on data from the Tourism Whistler 2016 visitor survey

Lost Lake Rider Volume

In the Lost Lake area, surveyors were located at the southern edge of the lake (the entrances to Peaches / Tin Pants and Molly Hogan / Grand Wazoo), along with the Lost Lake trail and counted the volume of riders heading north into the trails. Based on the trail counters there was more than 191,000 entries into the Lost Lake trails during the summer, of which 57.3%, or 109,500 entries were made by mountain bikers.

	Bike	Foot Traffic	Other
Lost Lake	54,019	52,659	4,804
Peaches	36,685	3,744	388
Molly	12,554	12,238	1,116
Grand Wazoo	6,234	6,077	554
Total Lost Lake	109,492	74,719	6,862

Note – ‘Other’ includes dog walkers, children in strollers, and motor vehicles where they are allowed, etc.

Cross Country Rider Volume

Rider Volume

Surveys were done at key access points for other Cross Country riding areas throughout the resort. The surveyors found that 94% of trail users at Darwin's were mountain bikers, along with 75% of users at Rick's Roost.

Westside - Access Trails	Bike	Foot Traffic	Other
Darwin's	20,642	921	485
Flank - Rick's Roost	6,173	2,243	416
<i>Sub Flank & Darwin</i>	<i>26,815</i>	<i>3,163</i>	<i>901</i>
Westside - Total Rides	82,744	9,761	2,780

Other Cross Country Trails	Bike	Foot Traffic	Other
Blackcomb	5,908	722	2,721
Out There	343	48	317
Comfortably Numb	2,881	402	2,661
Riverside	3,721	4,784	266

Trailforks data was used to scale the results up for the total cross-country trail system. Trailforks divides the cross country trails into six areas, (Westside, North, South, Blackcomb and Cheakamus, along with Lost Lake). With the Westside trails accounting for just under 1/3 of all rides in Whistler in 2016, the trail volumes were scaled up to 257,100 rides (excluding Lost Lake) for the entire 2016 season.

These volume figures are consistent with volume figures on other trails that were surveyed and had trail counters.

Riding Area	Rides
Whistler - West	82,744
Whistler - South	56,693
Whistler - North	32,822
Blackcomb	41,085
Cheakamus	43,725
Total Cross Country	257,069

Rider Origin

Rider Volume

The overall volume figures were then divided by origin based on the survey response data from each of the regions that surveys were collected in. Local riders accounted for more than half (63%) of rides on the Whistler Cross Country Trails, less than half (42%) of the rides in the Lost Lake area and 18% of the rides at the Whistler Bike Park.

Rides	Local W/S/P	Second Home-owner	Same-day	Overnight	Total	Visitors
Cross Country	161,016	14,320	6,637	75,095	257,068	96,052
Lost Lake	45,964	11,819	2,298	49,410	109,491	63,527
Bike Park	29,910	5,328	30,794	100,757	166,789	136,879
Total	236,890	31,467	39,729	225,262	533,348	296,458

Number of Visits - Adjusted

The next step in the analysis was to determine the total number of visits made throughout the season, calculated by dividing the total number of rides from the previous slide by the reported number of rides per visit. Note that for local residents, the number of 'rides per visit' refers to the number of rides per season.

Visits from out-of-town visitors are adjusted for the relative importance of each riding area so that accurate estimates of their importance can be prepared. Riders were sorted into categories based on where they rode during their visit to Whistler. The relative importance of each trail system was calculated based on the number of days spent riding in each area

Rides per Visit	Local W/S/P*	Second Home-owner	Same-day	Overnight	Total	Visitors
Cross Country	35.3	7	1	4.1	8.2	3.6
Lost Lake	21.9	4.7	1	3.1	4.8	3
Bike Park	27.8	5	1	4.4	3	2.5

Total Visits	Local W/S/P*	Second Home-owner	Same-day	Overnight	Total	Visitors
Cross Country	4,566	2,037	6,637	18,164	31,404	26,838
Lost Lake	2,094	2,515	2,298	16,093	23,001	20,906
Bike Park	1,074	1,064	30,794	22,912	55,843	54,769
Total	7,734	5,615	39,729	57,171	110,248	102,514

* – For local riders, rides per visit = rides per season; Visits = local riders



Visitor Spending

Rides & Visits

Whistler Bike Park

The typical sameday visitor spent \$87 per person per trip outside of expenditures related to the bike park. For overnight visitors, the spending per person reached \$655 per person, with the visitor spending generally associated with the respondents' length of stay in Whistler.

Note that the spending survey did not include bike park associated spending, thus the figures below exclude the price of lift tickets and rentals, however bike park ticket revenues and rental sales estimates are included in the overall study (slide 22).

The final step in determining spending directly attributable to the Bike Park is multiplying the total spending by the reported importance of the bike park in the decision to travel to Whistler.

Spending per Person	Second home-owner	Sameday	Overnight	Average
<i>Avg Nights</i>	7.8	0	6.6	6.6
Total	\$271.76	\$87.27	\$654.96	\$348.86
<i>Per Person per Night</i>	\$34.98	\$87.27	\$101.35*	\$92.67

Attributable Spending	Second home-owner	Sameday	Overnight	Total
<i>Importance</i>	90%	95%	93%	93%
Total	\$259,904	\$2,478,684	\$15,739,557	\$18,478,144

Note: Excluding expenditures associated with the bike park such as lift tickets and bike / equipment rental.

*Overnight visitors, excluding second homeowners

Lost Lake

The typical sameday visitor spent \$39 per person when riding the Lost Lake trails. For overnight visitors, tourism spending per trip totaled \$676 per person.

The final step in determining spending directly attributable to the Lost Lake trails is multiplying the total spending by the reported importance of riding at Lost Lake in the decision to travel to Whistler

Spending per Person	Second home-owner	Sameday	Overnight	Average
<i>Avg Nights</i>	6.8	0	5.2	5.3
Total	\$484.16	\$39.43	\$676.04	\$538.55
<i>Per Person per Night</i>	<i>\$70.78</i>	<i>\$39.43</i>	<i>\$127.34*</i>	<i>\$107.41</i>

Attributable Spending	Second home-owner	Sameday	Overnight	Total
<i>Importance</i>	75%	84%	65%	66%
Total	\$872,050	\$108,265	\$6,811,293	\$7,791,608

Note: Excluding expenditures associated with the bike park such as lift tickets and bike / equipment rental.

*Overnight visitors, excluding second homeowners

Cross Country

The typical sameday visitor spent \$62 per person when riding the Cross Country trails. For overnight visitors, tourism spending per trip reached \$897 per person.

The final step in determining spending directly attributable to the Cross Country trails is multiplying the total spending by the reported importance of riding the Cross Country trails in the decision to travel to Whistler.

Spending per Person	Second home-owner	Sameday	Overnight	Average
<i>Avg Nights</i>	9.34	0	7.1	7.0
Total	\$1,214.05	\$62.24	\$896.72	\$702.64
<i>Per Person per Night</i>	\$129.98	\$62.24	\$120.34*	\$99.36

Attributable Spending	Second home-owner	Sameday	Overnight	Total
<i>Importance</i>	78%	88%	72%	74%
Total	\$2,056,698	\$355,606	\$10,278,110	\$12,690,415

Note: Excluding expenditures associated with the bike park such as lift tickets and bike / equipment rental.

*Overnight visitors, excluding second homeowners

Whistler / Squamish / Pemberton Spending Attributable to WMBP

The survey found that 31% of respondents from Whistler, Squamish, or Pemberton were seasonal residents (Summer & Winter) and an additional 19% were summer seasonal residents. With this group of respondents technically being long-term visitors to Whistler and the vast majority of them indicating that the bike park was an important part of their decision to stay in the region. Visitors in this category were asked about their spending over the entire season, which totaled just over \$3,100 per person. The cost of a season's ticket was deducted from this total (included previously, pg. 25) and multiplied by the number of seasonal / second home riders (2,671) for a total spending of \$6.5 million. Note that this spending is for information only and is NOT included as part of the economic impact study which focuses exclusively on tourism expenditures. Seasonal residents were also excluded from the 2006 study.

Seasonal / Second home	Importance of WMBP (%)
Very Important	84%
Important	0%
Somewhat Important	2%
Somewhat Unimportant	4%
Unimportant	2%
Very unimportant	2%
I don't know	4%



Economic Impact Results

The combined spending of out of town riders on riding activities such as the bike park and renting bicycles along with tourism related expenditures in Whistler totaled \$47.0 million, supporting \$75.9 million in economic activity in British Columbia including \$58.6 million in economic activity in Whistler. The 2016 mountain bike season supported \$25.1 million in wages and salaries in the province through the support of 488 jobs,² of which 388 jobs and \$18.1 million in wages and salaries were supported in Whistler. The total net economic activity (GDP) generated by the mountain biking in Whistler was \$46.8 million for Canada as a whole; \$39.3 million for British Columbia and \$25.2 million in Resort Municipality of Whistler.

Considerable tax revenues were also supported by the 2016 mountain biking season, totaling \$14.1 million. Mountain biking supported federal government tax revenues of \$6.7 million with an additional \$5.6 million in taxes accruing to the Province of British Columbia. Moreover, \$1,007,000 in municipal taxes were supported in British Columbia municipalities, of which \$935,000 was in Whistler.



	Whistler	British Columbia	Canada
Initial Expenditure	\$47,007,205	\$47,007,205	\$47,007,205
GDP	\$25,242,860	\$39,328,798	\$46,802,088
Wages & Salaries	\$18,091,517	\$25,124,164	\$29,226,624
Employment	388.6	487.7	568.0
Industry Output	\$58,605,625	\$75,929,121	\$91,772,261
Total Taxes	\$9,699,991	\$12,627,036	\$14,117,805
Federal	\$4,704,238	\$6,018,114	\$6,734,441
Provincial	\$4,060,857	\$5,601,249	\$5,886,857
Municipal	\$934,897	\$1,007,673	\$1,496,508

² Jobs reported in this study refer to the number of jobs, vs. full time equivalent (i.e.: two people working half time in a job that typically features half time employment would represent two jobs or one FTE). Additionally, the direct employment effects are generally extra shifts or overtime for existing workers rather than new employment.

Economic Impact Results



	Whistler Bike Park		Lost Lake		Cross Country	
	Whistler	British Columbia	Whistler	British Columbia	Whistler	British Columbia
Initial Expenditure	\$26,117,928	\$26,117,928	\$7,791,608	\$7,791,608	\$13,097,668	\$13,097,668
GDP	\$14,760,707	\$22,487,238	\$4,007,859	\$6,373,073	\$6,474,293	\$10,468,487
Wages & Salaries	\$10,546,670	\$14,366,557	\$2,854,950	\$4,041,467	\$4,689,897	\$6,716,140
Employment	229.4	282.6	61.2	78.0	97.9	127.0
Industry Output	\$32,999,236	\$42,655,545	\$9,624,070	\$12,497,619	\$15,982,319	\$20,775,956
Total Taxes	\$5,410,822	\$7,013,918	\$1,621,229	\$2,113,065	\$2,667,941	\$3,500,053
Federal	\$2,673,456	\$3,396,940	\$762,765	\$981,524	\$1,268,017	\$1,639,650
Provincial	\$2,205,468	\$3,047,416	\$699,763	\$964,923	\$1,155,627	\$1,588,910
Municipal	\$531,898	\$569,562	\$158,701	\$166,618	\$244,297	\$271,493

Mountain Biker Profiles

To better understand the variances among different types of bikers, biker visitor profiles were created. Bikers were identified as Bike Park, Lost Lake, or Cross Country bikers based on the bike type they participated in most

BIKE PARK VISITORS:

- Are return visitors to Whistler, staying overnight
- Are more likely to be international visitors (1 in 3) when compared to other biker segments, with a further 1 in 4 from Vancouver / Lower Mainland
- Are the youngest (average age of 34) when compared to other biking segments
- Are most likely to be male, when compared to other biker segments
- Stay the longest (7.8 nights) when compared to other biker segments, with half staying more than 7 nights
- Travel primarily with friends only, with a spouse only, or alone
- Are likely to make only one biking trip to Whistler, although *regional* visitors are much more likely to make 5 or more biking trips to Whistler in the summer
- Visit Whistler because of the Bike Park



Mountain Biker Profiles

To better understand the variances among different types of bikers, biker visitor profiles were created. Bikers were identified as Bike Park, Lost Lake, or Cross Country bikers based on the bike type they participated in most

CROSS COUNTRY VISITORS:

- Are return visitors to Whistler, staying overnight
- Are more likely to be from Vancouver / Lower Mainland (2 in 5) when compared to other biker segments, with a further 1 in 4 from international locations
- Are aged evenly between 25 and 55 years, with an average age of 40
- Stay 1-4 nights in paid accommodation, although they are more likely to stay with friends and/or relatives (1 in 5) when compared to other biker segments
- Travel with a spouse only, friends only, or with their family (spouse and kids)
- Are likely to make only one biking trip to Whistler, although regional visitors are much more likely to make 5 or more biking trips to Whistler in the summer
- Are more likely to bike outside of Whistler in places like Squamish (1 in 4) compared to other segments
- Visit Whistler because of the Cross Country trails



Mountain Biker Profiles

To better understand the variances among different types of bikers, biker visitor profiles were created. Bikers were identified as Bike Park, Lost Lake, or Cross Country bikers based on the bike type they participated in most

LOST LAKE VISITORS:

- Are return visitors to Whistler, staying overnight
- Are from Vancouver / Lower Mainland or the rest of Canada, with a further 1 in 5 from international locations
- Are the oldest (average age of 44) when compared to other biking segments
- Are more likely to be female (32%), when compared to other biker segments
- Stay the fewest nights (5.5 nights) when compared to other biker segments, with half staying 2-4 nights
- Are the most likely to be travelling with kids (1 in 3) with 1 in 4 travelling as a family (spouse and kids)
- Are likely to ride other cross country trails and the paved valley trail in addition to the Lost Lake trails
- Are less likely to visit Whistler because of biking when compared to other biker segments





Crankworx

Economic Impact

Note: Crankworx impact is measured separate from overall impact of mountain biking in Whistler

Summary: Crankworx 2015

Whistler's Crankworx is a village wide mountain bike festival featuring numerous events and concerts that ran over a 10 day period from August 6-17, 2015. The annual festival attracts thousands of spectators who come to watch a variety of events such as dual slalom, slopestyle, downhill and enduro races.



The combined spending of out of town spectators, in combination with the expenditures made by the organizers of Crankworx 2015 totaled \$16.3 million, supporting \$26.2 million in economic activity in British Columbia including \$20.2 million in economic activity in Whistler. The spending in Whistler supported \$8.9 million in wages and salaries in the province through the support of 163 jobs, of which 126 jobs and \$6.3 million in wages and salaries were supported in Whistler. The total net economic activity (GDP) generated by the event was \$16.1 million for Canada as a whole; \$13.7 million for British Columbia and \$8.6 million in the Resort Municipality of Whistler.

Considerable tax revenues were also supported by Crankworx 2015, totaling \$4.8 million. The event supported federal government tax revenues of \$2.3 million with an additional \$1.9 million in taxes accruing to the Province of British Columbia. Moreover, \$343,000 in municipal taxes were supported in British Columbia municipalities, of which \$301,000 was in Whistler.

Crankworx 2015 by the Numbers

130,158 individuals were exposed to Crankworx 2015

\$14.1 million in visitor spending directly attributable to Crankworx

126 Whistler jobs supported

\$26.2 million in economic activity supported in British Columbia

287,286 visitor days of people engaged with Crankworx 2015

\$6.3 million in wages & salaries supported in Whistler

\$13.7 million boost to provincial GDP

\$4.8 million in taxes supported across Canada

Background

The 2015 Crankworx mountain bike festival was hosted in Whistler, British Columbia from August 6-17, 2015. Crankworx developed from the idea of hosting a summer festival that showcased the extreme elements of free-ride mountain biking and put it on display in the Whistler village. With its orientation to a great athlete and fan experience, the impact of the 12th edition of Crankworx Whistler was huge, with over 130,000 people exposed to the event and 287,000 attendee days (people attending x days attended).

With such a significant number of people attending Crankworx, the festival has a considerable economic impact on the Resort Municipality of Whistler, the measurement of which is the subject of this report.

Economic Impact studies measure the change in economic activity in the host city or region arising from hosting an event or festival. The study first calculates the amount of new money being spent in the local region as a direct result of hosting the event, and then quantifies the impact this spending has on the regional, provincial, and national economy.¹



¹ The Canadian Sport Tourism Alliance's (CSTA's) **Sport Tourism Economic Assessment Model**, Professional version (STEAM PRO 2.0) was used to generate the economic impact estimates detailed in this report. STEAM PRO, which was developed in 2006, is a model that has been designed to incorporate the results of primary data collected from event visitors and the budget / capital expenditures of event organizers and others to prepare economic impact assessments. The model, updated in 2015 is based on the Canadian Tourism Research Institute's (CTRI - a branch of The Conference Board of Canada) TEAM model, which is the most widely used tourism economic impact model in Canada. The results of STEAM PRO 2.0 are fully consistent with the CSTA's STEAM 2.0 model. A more detailed description of STEAM PRO 2.0 is contained within Appendix 1.

Methodology

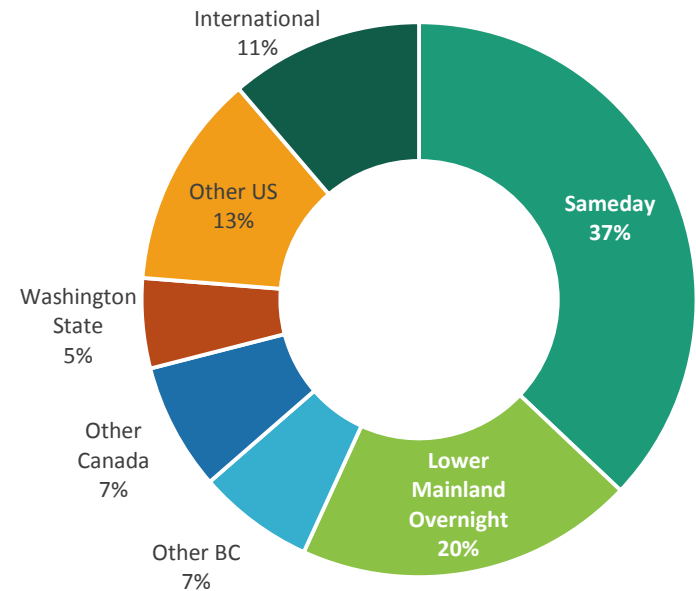
The majority of the data in this study was derived from an on-site survey that was prepared and delivered by Tourism Whistler in consultation with the CSTA. The survey asked questions about various aspects of the event along with questions about their trip and spending in Whistler if they were out of town visitors. A total of 636 parties were approached with 543 people completing the survey including 380 out of town visitors, 130 residents of Whistler, Squamish or Pemberton along with 33 respondents were season workers in Whistler.

Visitor Origin & Volume

The total visitor volume numbers used for this study have been prepared using attendance figures provided by Whistler Blackcomb / Tourism Whistler. As noted, they found that Whistler Crankworx had an overall attendance of 287,286 visitor days at Crankworx 2015. (This accounts for visitors attending the festival for more than 1 day. (i.e. 1 person attending for 5 days = 5 visitor-days). This figure is adjusted to more accurately reflect true captured attendees as the intentional attendance at the festival is weighted – and those passing by and checking out one booth are not true attendees, and are consequently not included in the count.

It is important to note that a large incentive travel group (not affiliated with Crankworx) overlapped with Crankworx in 2015, which resulted in early bookings for a significant number of nightly rentals over the dates of the festival. Attendance figures may have been affected by the reduced nightly rental inventory available in 2015.

Visitor Origin



² The importance of Crankworx in the respondents decision to travel is accounted for later in the document, with the economic impact study only including visitor spending that is directly attributable to Crankworx.

Visitor Spending – Per Person

Out of town spectators were asked about their spending while in Whistler, with spending per person ranging from \$54 per person for those who made day trips to over \$500 per person for overnight visitors.

As a final step visitors to the 2015 Crankworx festival were asked about the importance of Crankworx in their decision to travel to Whistler. Crankworx was given an overall importance of 65%, with total visitor spending in Whistler that was directly attributable to Crankworx 2015 reaching \$14.1 million

	Sameday	Overnight	Average
<i>Whistler Nights</i>	0.0	5.3	5.3
Total	\$54.86	\$501.01	\$335.67

	Sameday	Overnight	Total
<i>Importance</i>	66%	65%	65%
Total	\$859,190	\$13,254,351	\$14,113,531

Economic Impact Results

The combined spending of out of town spectators, in combination with the expenditures made by the organizers of Crankworx 2015 totaled \$16.3 million, supporting \$26.2 million in economic activity in British Columbia including \$20.2 million in economic activity in Whistler. The spending in Whistler supported \$8.9 million in wages and salaries in the province through the support of 163 jobs, of which 126 jobs and \$6.3 million in wages and salaries were supported in Whistler.³ The total net economic activity (GDP) generated by the event was \$16.1 million for Canada as a whole; \$13.7 million for British Columbia and \$8.6 million in the Resort Municipality of Whistler.

Considerable tax revenues were also supported by Crankworx 2015, totaling \$4.8 million. The event supported federal government tax revenues of \$2.3 million with an additional \$1.9 million in taxes accruing to the Province of British Columbia. Moreover, \$343,000 in municipal taxes were supported in British Columbia municipalities, of which \$301,000 was in Whistler.



	Whistler	British Columbia	Canada
Initial Expenditure	\$16,345,777	\$16,345,777	\$16,345,777
GDP	\$8,568,122	\$13,739,130	\$16,069,366
Wages & Salaries	\$6,281,645	\$8,891,612	\$10,165,714
Employment	125.9	163.3	188.2
Industry Output	\$20,153,086	\$26,160,044	\$31,167,396
Total Taxes	\$3,265,536	\$4,341,666	\$4,809,821
Federal	\$1,590,424	\$2,080,470	\$2,305,158
Provincial	\$1,373,816	\$1,917,755	\$2,006,363
Municipal	\$301,296	\$343,442	\$498,300

³ Jobs reported in this study refer to the number of jobs, vs. full time equivalent (i.e.: two people working half time in a job that typically features half time employment would represent two jobs or one FTE). Additionally, the direct employment effects are generally extra shifts or overtime for existing workers rather than new employment.

Comparing 2016 to 2006

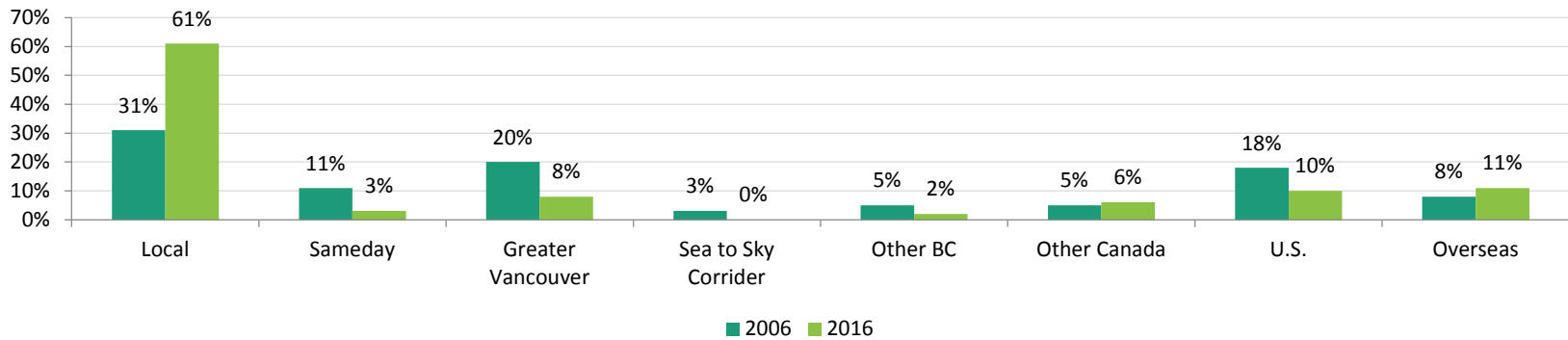
While this study serves as an overall update to the Whistler portion of the 2006 Sea to Sky Mountain Biking Economic Impact Study, **considerable caution should be used when comparing the two studies.** The following notes should be considered:

- The time elapsed between studies (10 years) means the product being measured has changed significantly, as have survey and sampling best practices. **Survey sample sizes were significantly smaller in 2006.**
- The model used in 2006 has since been updated, and now calculates economic impact differently and more accurately. Since GDP is now calculated differently, any comparison (while cautioned) is better made using initial expenditure.
- The results from the 2006 study show only provincial impact, and not Whistler specific impact.
- The 2016 study weights a visitor's impact based on importance of biking in the decision to visit Whistler. The 2006 study does not.
- The 2006 study treated cross country rides as residual to bike park rides. The 2016 study attributes rides to each biking type more accurately.
- The 2006 study combined the impact of all cross country trails, and did not separate Lost Lake Trails and the Other Cross Country Trails.

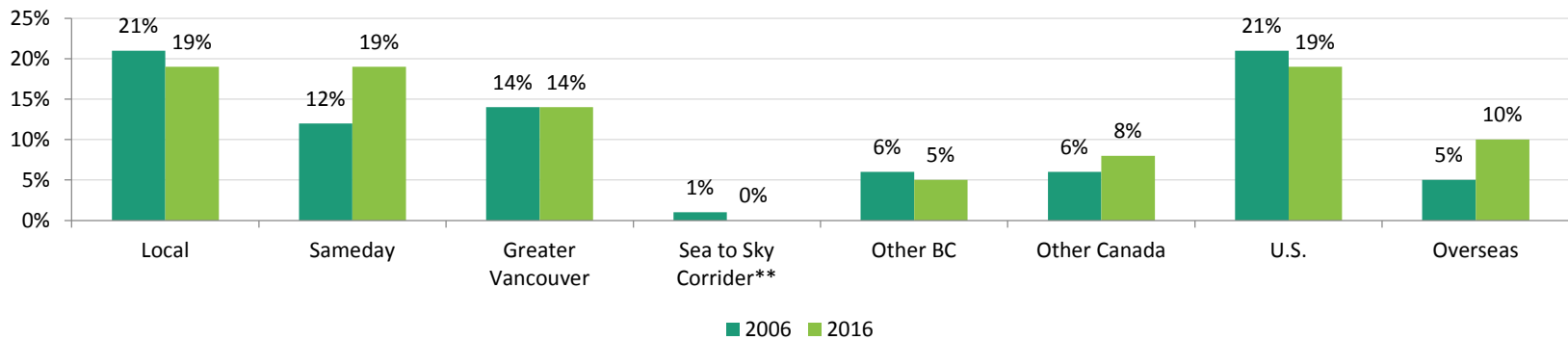
	Bike Park Impact		XC Impact	
	2006	2016	2006 (Valley)	2016 (LL +XC)
Initial Expenditure	\$16,236,267	\$26,117,928	\$6,605,342	\$20,889,276
GDP	\$18,823,005	\$22,487,238	\$7,415,457	\$16,841,560
Wages & Salaries	\$12,784,971	\$14,366,557	\$5,040,425	\$10,757,607
Employment	384.1	282.6	155.2	205.0
Industry Output	\$39,140,975	\$42,655,545	\$15,794,728	\$33,273,575
Total Taxes	\$ 8,055,689	\$7,013,918	\$3,587,149	\$5,613,118
Federal	\$ 3,846,213	\$3,396,940	\$1,706,097	\$2,621,174
Provincial	\$ 3,264,615	\$3,047,416	\$1,450,574	\$2,553,833
Municipal	\$ 944,861	\$569,562	\$ 430,479	\$438,111

Comparing 2016 to 2006

Valley Area of Origin*



Whistler Bike Park Area of Origin*

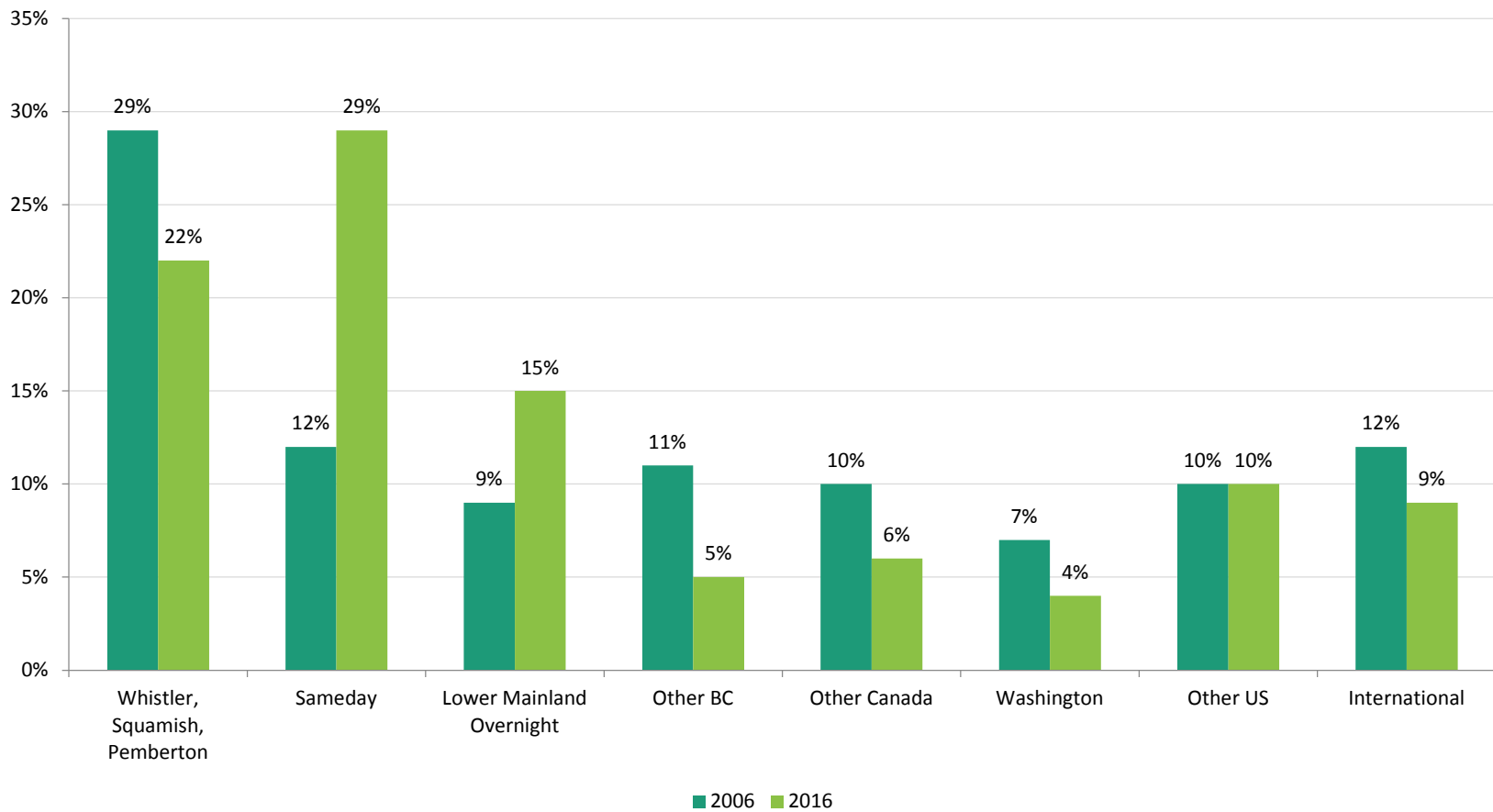


* Tables denote 'area of origin' of total rides, not of unique riders

** 'Sea-to-Sky' rider origin is included in the 'local' category in 2016

Comparing 2015 to 2006

Crankworx Attendee Area of Origin



Comparing 2016 to 2006

Travel Characteristics

Avg. Pty Size		
	2006	2016
Valley	2.9	3.3
Whistler Bike Park	3.3	2.75
Crankworx*	3.2	4.1
Avg. Nights		
	2006	2016
Valley	4.5	6.2
Whistler Bike Park	5.0	6.6
Crankworx*	5.4	5.3
% on Day Trip		
	2006	2016
Valley	10%	21%
Whistler Bike Park	11%	53%
Crankworx*	17%	37%

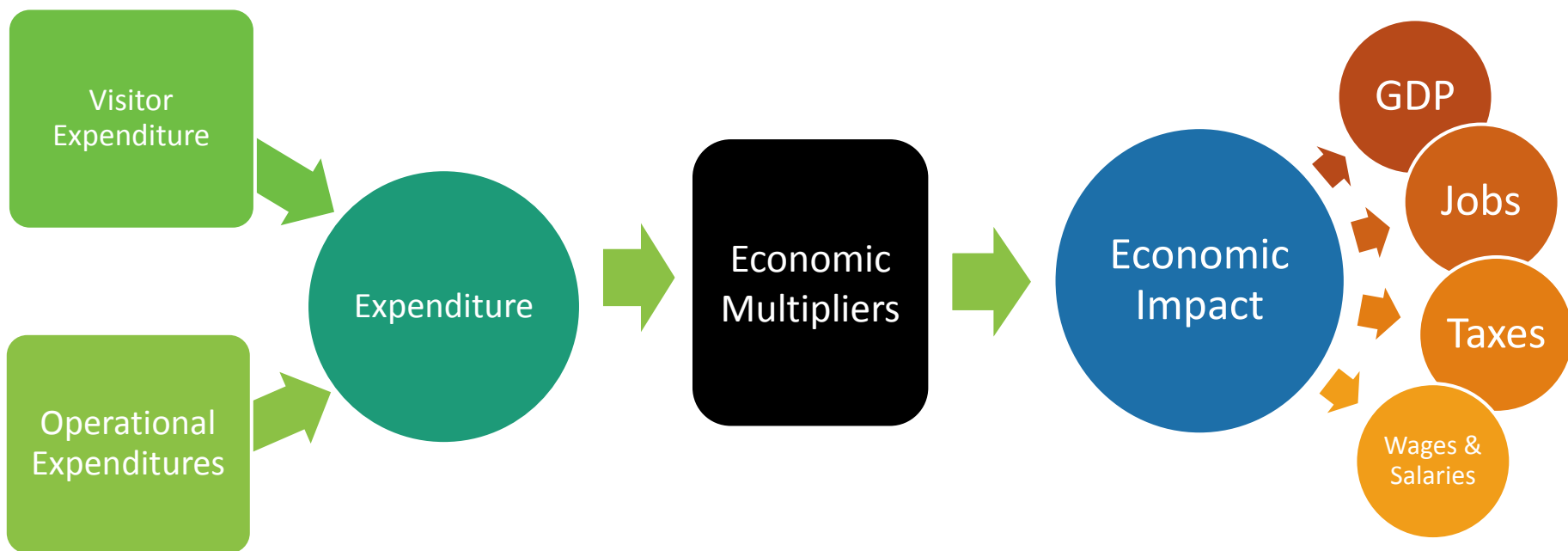
* Crankworx data represents the 2015 event

Comparing 2016 to 2006

	Valley 2006	Valley 2016	Whistler Bike Park 2006	Whistler Bike Park 2016	Crankworx 2006	Crankworx 2015
<i>U18*</i>					<i>Not asked</i>	<i>n/a</i>
19-29	29%	19%	29%	50%		39%
30-39	31%	29%	36%	26%		24%
40-49	25%	26%	21%	17%		21%
50-59	11%	17%	11%	6%		11%
60-69	3%	6%	3%	1%		4%
70-79	1%	1%	0%	0%		1%
Male	63%	74%	65%	82%	Not asked	62%
Female	37%	26%	35%	18%		38%

**U18 data not collected in 2016, and excluded from comparisons in this report*

How Economic Impact Modelling Works





Expenditures

- Represents the combined spending of:
 - Visitors (Tourism)
 - Operations
 - Capital Construction
- Is the amount of money being spent in the community **BEFORE** the application of any economic multipliers

Gross
Domestic
Product

Gross Domestic Product (GDP)

- Represents the total value of production of goods and services in the economy resulting from the initial expenditure under analysis
- This is a **NET** measure and represents the value of goods and services produced less the cost of inputs used. It also accounts for the value of any imports to the region under consideration
- The concept is well understood by most government stakeholders and economists

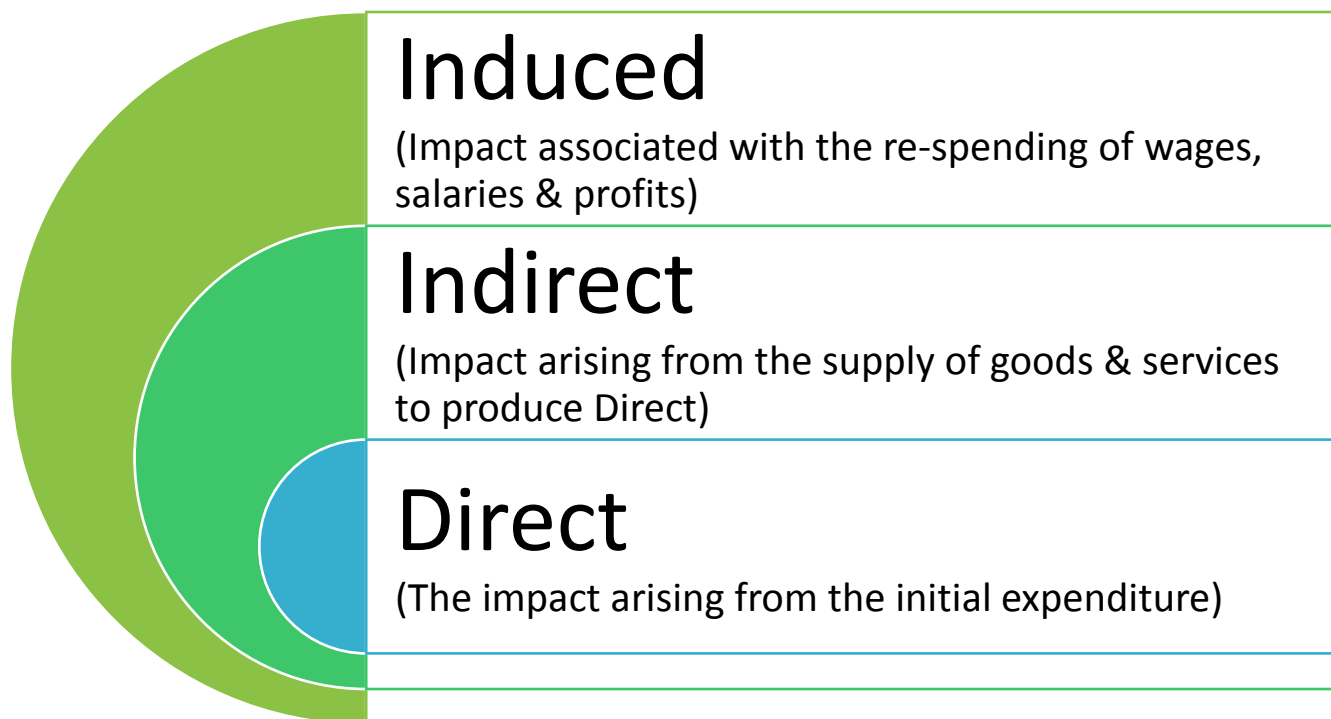
Economic
Activity

Economic Activity

This figure represents the direct, indirect and induced impacts on industry output generated by the initial tourism expenditure. It should be noted that the industry output measure represents the **sum** total of all economic activity that has taken place and consequently involve double counting on the part of the intermediate production phase.

Since the Gross Domestic Product (GDP) figure includes only the **net** total of all economic activity (i.e. considers only the value added), the industry output measure will always exceed or at least equal the value of GDP.

Economics Background



Appendix 1: Economic Impact Methodology STEAM^{2.0}

Background

Briefly, the purpose of STEAM 2.0 is to calculate both the provincial and regional economic impacts of sport and event based tourism. The economic impacts are calculated on the basis of capital and operating expenditures on goods, services and employee salaries, and on the basis of tourist spending within a designated tourism sector. The elements used to measure the economic impacts are Gross Domestic Product (GDP), Employment, Taxes, Industry Output and Imports. STEAM measures the direct, indirect & induced effects for each of these elements.

In order to produce economic contribution assessments that are robust and reliable, we developed specific economic contribution models at the national, provincial and metropolitan levels that make use of the most current and most detailed input-output tables and multipliers available from Statistics Canada. The approach also leverages the credibility and robustness of sector specific tax data available from Statistics Canada's Government Revenues Attributable to Tourism (GRAT) report.

Technical Description of the Impact Methodology Used by STEAM^{2.0}

While the economic contribution analysis will be conducted primarily at the provincial level, developing highly disaggregated provincial economic models required first the construction of a highly disaggregated national economic contribution model. The reason for this was that detailed input-output tables from Statistics Canada are only publicly available at the national level.

For STEAM 2.0 and STEAM PRO 2.0, we pioneered a solution that leveraged the detail available on an industry basis from the national model using aggregate multipliers that are available for each province and territory.

While the set of multipliers that Statistics Canada produces do not provide insights into the economic contributions attributed to specific industries operating within the economy, they do represent a known aggregate level which the overall economy can be expected to benefit by. The key to our approach is the linkage between the industry level detail (provided by the model developed from the input-output tables) with the benchmarks provided by the various multipliers.

Appendix 1: Economic Impact Methodology STEAM^{2.0}

STEAM 2.0 and many other impact studies are based on input-output techniques. Input-output models involve the use of coefficients that are based on economic or business linkages. These linkages trace how tourist expenditures or business operations filter through the economy. In turn, the coefficients applied are then used to quantify how tourism related activity in a particular region generates employment, taxes, income, etc. The input-output approach indicates not only the direct and indirect impact of tourism, but can also indicate the induced effect resulting from the re-spending of wages and salaries generated.

All impacts generated by the model are given at the direct impact stage (i.e. the "front line" businesses impacted by tourism expenditures), indirect impact stage (i.e. those industries which supply commodities and/or services to the "front line" businesses) and the induced impact stage (induced consumption attributable to the wages and salaries generated from both the direct and indirect impact).

The direct and indirect impact phase results are benchmarked with the corresponding direct and indirect multipliers from Statistics Canada at the national level, on an industry by industry basis.

We developed induced round effects that replicate the re-spending behavior of consumers (who benefited through wages either directly or indirectly by sport events) along income ranges. The re-spending profiles used account for different average wages that exist in specific industry sectors. Ultimately, the re-spending profiles permit the determination of distinct levels and composition of induced consumption depending upon the extent to which those industries are directly and indirectly affected by economic activity arising from hosting sports events and festivals.

After the level and composition of induced consumption is determined, the process involved treating the induced consumption spending in a separate analysis—much the same as the original sport event related expenditures were. Hence, these expenditures were simulated through the direct and indirect impact phase and treated as if they were initial expenditures.

Once again, the magnitude of the results of the induced impact phase was benchmarked against the corresponding multipliers supplied by Statistics Canada. Again, this is done to ensure that, in aggregate, the estimates align with those from Statistics Canada but at the same time the analysis also provides an industry by industry breakdown.

Taxes and employment are two key impact measures that require data sources beyond those available in the input-output model.

Appendix 1: Economic Impact Methodology STEAM^{2.0}

Taxes

Despite the fact that many of the sales tax ratios are available from the margins tables produced by Statistics Canada, additional work was required to adjust these rates based on possible changes in tax rates between 2010 (the year of the input-output tables) and 2012 (the year of the analysis). To extend the analysis to include the full range of taxes and fees impacted by sport events, we relied on statistics reported in Statistics Canada's Government Revenues Attributable to Tourism (GRAT) report. This report is particularly useful because it follows the concepts and definitions as identified in the Canadian Tourism Satellite Account (CTSA). As well, the scope of taxes covered by the GRAT is more comprehensive than what would be possible using only the input-output tables. In particular, the GRAT includes taxes on incomes (i.e., on employment earnings, corporate profits, net income of unincorporated business and government business enterprises), contributions to social insurance plans (i.e., premiums for Canada/Quebec Pension Plan, Employment Insurance and workers compensation), taxes on production and products (such as sales and property taxes), and from sales of government goods and services.

Aside from reporting on the tax collections directly attributable to tourism, the GRAT study also identifies the composition and level of taxes attributed to various industry segments of the economy. At the present time, the most recent GRAT report relates to the 2011 calendar year. The established rates calculated from GRAT were adjusted, where applicable, to reflect rate changes that occurred between 2011 and subsequent years.

To incorporate the findings from the GRAT study into our analysis, we estimated ratios that were based on the most current industry sector tax data along with the most current GDP estimates on an industry basis. The resulting tax coefficients were then used to determine tax calculations that would be based on GDP estimates stemming from the model on an industry by industry basis.

The categories of taxes that were benchmarked against the GRAT statistics include corporate taxes, contributions to social insurance plans and other taxes on production. Other taxes on production comprise property taxes, payroll taxes, capital taxes, permits and many other miscellaneous taxes covering federal, provincial and municipal levels of government. The contributions to social insurance plans include employment insurance, worker's compensation and the Canada and Quebec pension plans.

We also went outside of the figures reported in the GRAT report to assemble income tax coefficients. This was done to capture the detail that was already available from the input-output analysis and to better align with the granular demand associated with sporting event expenditures. The source used to assemble specific income tax rates, by income range, was the Canadian Tax Foundation's most recent Finances of the Nation report. This report provides insights on taxes on incomes (i.e., on employment earnings, corporate profits, net income of unincorporated business and government business enterprises) and contributions to social insurance plans (i.e., premiums for Canada/Quebec Pension Plan, Employment Insurance and workers compensation).

Appendix 1: Economic Impact Methodology STEAM^{2.0}

Employment

Employment is a measure that is available, in aggregate form, from the multiplier tables produced by Statistics Canada. However, the employment multipliers relate to the year of the tables (2010) and not the year of the current analysis. To adjust for this difference, indices of average wage growth by industry were incorporated to reflect the period between 2010 and the year under analysis. Annual data from Statistics Canada's Labour Force survey were used on an industry basis to capture the change in average earnings.

Once again, in order to preserve the industry by industry detail available from the model, appropriate average wages were applied against industry labour income estimates to align with the employment multipliers from Statistics Canada. The one distinction being that the employment multipliers reflect the economy operating in 2010. Hence, adjustments on average wages were made to estimate what the employment multipliers would resemble had they been produced for subsequent years.

Regional (Sub-Provincial) Impact Methodology

The method used to simulate intraprovincial commodity flows and ultimately regional impacts follows directly from regional economic principles. The principle is referred to as the "gravity model". Basically the "gravity model" states that the required commodity (& service) inputs will be "recruited" in a manner that takes into consideration economies of scale (i.e. production costs), transportation costs and the availability of specific industries. Economies of scale (i.e. lower production costs) are positively correlated with input demand while greater transportation costs are negatively correlated with input demand. Fulfilling that demand from other provincial regions is contingent on the fact that the specific industry does actually exist. An advantage of using the "gravity model" to simulate intraprovincial commodity flows is that as the industrial composition of the labour force changes, or as new industries appear for the first time in specific regions, the share of production between the various sub-provincial regions also changes.

By following this principle of the gravity model, all sub-provincial regions of a province are assigned a coefficient for their relative economies of scale in each industry (using the latest industry labour force measures) as well as a coefficient to represent the transportation cost involved to get each industry's output to the designated market. One variation on the "gravity model" principle involves the estimation of "relative trade distances" by incorporating different "weights" for different modes of transport. Once these coefficients are generated for all regions and over all industries, a measure of sensitivity (mostly relative to price, but in the case of service industries also to a "local preference criteria") is then applied to all commodities. Another variation on the strict "gravity model" approach is that the measure of sensitivity is adjusted by varying the distance exponent (which in the basic "gravity model" is 2) based on the commodity or service required. The variation in distance exponents revolve, principally, around two research hypotheses: (1) the greater the proportion of total shipments from the largest producer (or shipper), the lower the exponent, and (2) the greater the proportion of total flow which is local (intraregional), the higher the exponent.

Appendix 2: Glossary of Terms Used by STEAM^{2.0}

Initial Expenditure - This figure indicates the amount of initial expenditures or revenue used in the analysis. This heading indicates not only the total magnitude of the spending but also the region in which it was spent (thus establishing the "impact" region).

Direct Impact - Relates ONLY to the impact on "front-line" businesses. These are businesses that initially receive the operating revenue or tourist expenditures for the project under analysis. From a business perspective, this impact is limited only to that particular business or group of businesses involved. From a tourist spending perspective, this can include all businesses such as hotels, restaurants, retail stores, transportation carriers, attraction facilities and so forth.

Indirect Impact - Refers to the impacts resulting from all intermediate rounds of production in the supply of goods and services to industry sectors identified in the direct impact phase. An example of this would be the supply and production of bed sheets to a hotel.

Induced Impact - These impacts are generated as a result of spending by employees (in the form of consumer spending) and businesses (in the form of investment) that benefited either directly or indirectly from the initial expenditures under analysis. An example of induced consumer spending would be the impacts generated by hotel employees on typical consumer items such as groceries, shoes, cameras, etc. An example of induced business investment would be the impacts generated by the spending of retained earnings, attributable to the expenditures under analysis, on machinery and equipment.

Gross Domestic Product (GDP) - This figure represents the total value of production of goods and services in the economy resulting from the initial expenditure under analysis (valued at market prices).

- **NOTE:** The multiplier of Total/Initial, represents the total (direct, indirect and induced) impact on GDP for every dollar of direct GDP. This is a measure of the level of spin-off activity generated as a result of a particular project. For instance if this multiplier is 1.5 then this implies that for every dollar of GDP directly generated by "front-line" tourism businesses an additional \$0.50 of GDP is generated in spin-off activity (e.g. suppliers).
- The multiplier of total/\$ Expenditure, represent the total (direct, indirect and induced) impact on GDP for every dollar of expenditure (or revenue from a business perspective). This is a measure of how effective project related expenditures translate into GDP for the province (or region). Depending upon the level of expenditures, this multiplier ultimately determines the overall level of net economic activity associated with the project. To take an example, if this multiplier is 1.0, this means that for every dollar of expenditure, one dollar of total GDP is generated. The magnitude of this multiplier is influenced by the level of withdrawals, or imports, necessary to sustain both production and final demand requirements. The less capable a region or province is at fulfilling all necessary production and final demand requirements, all things being equal, the lower the eventual economic impact will be.

Appendix 2: Glossary of Terms Used by STEAM^{2.0}

GDP (at factor cost) - This figure represents the total value of production of goods and services produced by industries resulting from the factors of production. The distinction to GDP (at market prices) is that GDP (at factor cost) is less by the amount of indirect taxes plus subsidies.

Wages & Salaries - This figure represents the amount of wages and salaries generated by the initial expenditure. This information is broken down by the direct, indirect and induced impacts.

Employment - Depending upon the selection of employment units (person-years or equivalent full-year jobs) these figures represent the employment generated by the initial expenditure. These figures distinguish between the direct, indirect and induced impact. “Equivalent Full-Year Jobs”, if selected, include both part-time and full-time work in ratios consistent with the specific industries.

- **NOTE:** The multiplier (B) is analogous to Multiplier (B) described earlier with the exception being that employment values are represented per \$1,000,000 of spending rather than per dollar of spending. This is done to alleviate the problem of comparing very small numbers that would be generated using the traditional notion of a multiplier (i.e. employment per dollar of initial expenditure).

Industry Output - These figures represent the direct & indirect and total impact (including induced impacts) on industry output generated by the initial tourism expenditure. It should be noted that the industry output measure represents the **sum** total of all economic activity that has taken place and consequently involve double counting on the part of the intermediate production phase. Since the Gross Domestic Product (GDP) figure includes only the **net** total of all economic activity (i.e. considers only the value added), the industry output measure will always exceed or at least equal the value of GDP.

Taxes - These figures represent the amount of taxes contributed to municipal, provincial and federal levels of government relating to the project under analysis. This information is broken down by the direct, indirect and induced impacts.

Imports - These figures indicate the direct, indirect and induced final demand and intermediate production requirements for imports both outside the province and internationally.