Sea to Sky Mountain Biking Economic Impact Study

Overall Results

Western Canada
Mountain Bike Tourism Association
c/o 2654 Eton Street, Vancouver, BC , Canada V5K 1K1
Web: www.mbta.ca
Email: info@mbta.ca

Western Canada
Mountain Bike Tourism Association
c/o 2654 Eton Street, Vancouver, BC , Canada V5K 1K1
Email: info@mbta.ca

Executive Summary

British Columbia is well known for its unique and challenging mountain biking trails. While communities and tourism organizations acknowledge that mountain biking tourism generates economic activity, quantifiable data is needed to demonstrate the value of the trails, encourage investment in infrastructure, and establish appropriate trail management policies. To meet these objectives, the Western Canada Mountain Bike Tourism Association (MBTA) has conducted a pilot study to measure the economic impact of mountain biking in the Sea to Sky Corridor which includes the communities of the North Shore (North Vancouver and West Vancouver), Squamish, and Whistler.

> The trail systems of the North Shore, Squamish and Whistler, are estimated to have collectively generated **$10.3 million** in spending from riders that live outside of the host community over the period from June 4 to September 17, 2006.

Spending by visitors to Whistler accounted for just under two-thirds of the total, at just over $6.6 million (note figure excludes Whistler Bike Park spending). On the North Shore, the expenditures by visitors to the GVRD as well as non-North Shore GVRD residents totaled just over $2.0 million. Finally, Squamish saw spending from riders totaling over $1.7 million as a result of non-resident riders visiting the trail system as well as training and participating in the popular Test of Metal mountain bike race held in mid June each year. The combined expenditures of non-resident riders on the trail systems in the three communities resulted in a total of $9.3 million in new economic activity (GDP) and supported 194 jobs through the payment of just over $6.3 million in wages and salaries.

In addition to the trail systems, the study also surveyed riders at the Whistler Bike Park (WBP) and the Crankworx festival. The WBP, the most visited mountain bike park in North America was a considerable source of revenue for both Whistler and the Province of BC. Non-resident visitors to the WBP spent an estimated $16.2 million in Whistler. Finally, the Crankworx Mountain Bike Festival continues to grow, with in excess of 55,000 unique visitors attending 2006 edition of the event, of which more than 23,000 travelled solely to attend the Festival, resulting in non-resident expenditures in excess of $11.5 million.

The authorized trail system in the Whistler Valley generates considerably more economic activity than trail systems in Squamish and on the North Shore where few authorized trails exist. Whistler has been able to capture higher visitor expenditure in part by having the ability to promote its municipal trails and associated services (bike rentals, guides, camps, etc) directly to visitors both within the resort and externally.

Although one might draw the conclusion that the lift accessed Whistler Bike Park draws most riders to Whistler, the survey showed that just over half of the Whistler Valley riders indicated cycling was an important trip motivator (i.e. 52% gave cycling a 4 or 5 on a 1 to 5 scale of importance where 5 represents cycling being the only reason for taking a trip), illustrating the importance of the

municipal trail system. Furthermore, the survey found that there was less than 10% cross over between Whistler Bike Park riders and those on the Whistler Valley Trails reinforcing the notion that the Valley Trails were a significant stand alone draw.

The results of the study show that mountain bike trail systems of the Sea to Sky region attract significant numbers of visiting riders to the host communities and cumulatively generate a significant economic impact in the region. When the values of trail systems at the community level are compared, the results suggest that the level of economic impact is dependant on whether or not trails are authorized and offer some long term certainty for both public and commercial use.

Table of Contents

Cover Image: Comfortably Numb, Whistler, B.C. Photo: Pat Mulrooney

Acknowledgements

The Mountain Bike Tourism Association gratefully acknowledges the financial support of the following partners in this study:

Ministry of Tourism, Sport, and the Arts	District of Squamish
North Shore Mountain Bike Events Society	Resort Municipality of Whistler
Test of Metal	Tourism Whistler
Corsa Cycles & Tantalus Bike Shop	Whistler Bike Park

For more information on this study, please contact:

Donna Green, Martin Littlejohn, Jimmy Young,
Directors, Western Canada Mountain Bike Tourism Association
Email: info@mbta.ca

Tony Fisher
Principal, Paradigm Consulting Group
Senior Research Consultant, Canadian Sport Tourism Alliance
Email: paradigm.consulting@rogers.com

1.0 Introduction

The Sea to Sky Corridor, situated on BC's southwest coast, running from North and West Vancouver through Squamish, to Whistler, features some of North America's most challenging and diverse terrain for all types of mountain biking. Trails on 'the Shore' are challenging for even the most experienced freeriders, Squamish has a multitude of trails for epic cross-country rides as well as freeride trails. Whistler features both cross-country trails throughout the Whistler Valley and the Whistler Bike Park features 44 lift accessed downhill trails for all skill levels. A number of mountain bike oriented events also take place in the Sea to Sky corridor, including the participant-based Test of Metal cross-country race in Squamish (June) and the spectator-based Crankworx Freeride Mountain Bike Festival in Whistler (July).

Mountain biking on the Sea to Sky trail system provides a considerable benefit to host communities. For local residents, the trails provide a venue to participate in an active, healthy lifestyle, and increase the desirability of living in the area. Moreover, the trails are an attraction for residents of both neighbouring and out of town areas to visit the host communities, thereby providing support for local businesses and increasing the economic activity for the region.

The Sea to Sky Mountain Biking Economic Impact Study aims to quantify the economic impact of mountain biking in the Sea to Sky Corridor, and thus has several components. The largest of these involves collecting spending data directly from mountain bikers while they are on the trails in the three communities of the North Shore (made up of West and North Vancouver), Squamish and Whistler. An additional component of the survey program saw data being collected from spectators and participants at the Test of Metal race in Squamish and spectators at Crankworx in Whistler. Finally, in order to further corroborate the findings of the surveys, supplemental data from bike stores on the North Shore and Squamish was collected in order to understand intra-regional mountain biking related spending.

The methodology and aggregate results of the research are contained within this document, and in addition, there are regional reports provided to each of the three communities involved, as well as two reports focused specifically on each of the events associated with the study. The methodology used to collect expenditure data from respondents, as well as a brief description of the economic impact model contained within the next section, while the more detailed results from each of the three community surveys can be found in section 3. Subsequently, section 4 provides the details on the two event based surveys, and section 5 provides the economic impact results. Section 6 concludes the document, with an overview of the MBTA and a copy of the survey stint schedule found in appendices 1 and 2, and a more detailed description of the STEAM Pro economic impact model and a glossary of the terms used found in appendices 3 and 4.

2.0 Methodology

The mountain biking survey was launched at various times during the month of June in the three communities (started in Squamish on June 4, North Shore – June 10, Whistler – June 24, with all surveys being finished by September 17). An average of 4-6 surveyors were hired in each community to conduct interviews with mountain bikers, and at least 4 popular trail access points were identified in each community where the interviews were conducted (note that some survey locations in Squamish and Whistler shifted as the study progressed due to low visitor volumes, see Table 2.1). The surveyors used hand held computers (Palm PDAs equipped with Techneos Entryware survey software) to record the data which was then uploaded over the Internet to a central server for compilation and assessment. A copy of the survey can be found in Appendix 2.

The survey methodology and schedule was designed using the *Guidelines for Measuring Tourism Economic Impact at Ungated or Open Access Events and Festivals*[1] as a general set of guiding principles. In particular, the guidelines were closely followed in developing a stratified random sampling plan. A list was prepared that included a morning and afternoon shift for each day at each location for both weekdays and weekends in each community. Shifts were then selected at random from the weekday and weekend list to reach the desired totals. A final balancing of the stints was then undertaken to ensure that the stints were balanced between the different locations in the community, month, day of the week, and time of day.

Table 2.1 Survey Locations and Number of Stints per Location

	North Shore	Squamish	Whistler
Survey Locations	Mountain Highway	TOM Start / Finish (until June 30)	Lost Lakes Trailhead
	Old Buck	Top of Perth Drive	Whistler Bike Park
	Riverside Drive	Garibaldi Rd.	Comfortably Numb
	Cypress Mtn. Public Works Parking	Alice Lake	Emerald (switched to Function Junction in July)
	Other	Other	Rainbow Parking Lot
Number of Stints	51	43	47

Surveyor turnover was a challenge in conducting the project, particularly in Whistler where an abundance of part-time employment opportunities created issues around scheduling shifts and maintaining commitment to the project. Surveyor turnover combined with a large and diverse trail network and lower than anticipated rider volumes, also posed challenges in Squamish. Consequently the number of stints completed and the number of responses was lower in Squamish and Whistler than on the North Shore (which was quite consistent in terms of rider volumes and survey completes).

[1] Available on-line at: http://www.tourism.gov.on.ca/english/tourdiv/research/resources.htm

2.1 Survey Sample

A total of 1,270 riding parties[2] were intercepted, of which 154 (12%) declined to participate and a further 97 (8%) of riding parties were composed of riders who had all been previously intercepted. This left a total of 1,019 valid surveys collected in the three communities. The remaining riding parties were then categorized as to whether they were residents of the area (note that minimal information was gathered from residents as spending did not represent "new" money into the community), non residents, or a mixed party comprised of resident and non resident riders. For the purposes of this study, the definition of non-resident for same day riders was having traveled a distance of more than 40km, one-way from the primary residence to the start of the ride. The exception was on the North Shore, where non-residents also included those who live in Greater Vancouver communities other than West or North Vancouver. In Whistler, same-day riders from Squamish or Pemberton who also work in Whistler were treated as Whistler residents. For overnight visitors, there was no minimum distance threshold other than staying overnight away from the respondent's primary residence, and the overall length of stay in the community was less than 31 days (Table 2.2). Overall, we found a greater portion of non-resident riders on the trails than originally anticipated in all communities. Non-resident riders accounted for half the riders surveyed in Squamish, nearly two-thirds of the riders in the North Shore and three-quarters of the riders in Whistler.

Table 2.2: Number of Responses & Rider Origin

	Total	North Shore	Squamish	Whistler
Total Intercepts	1270	656	213	401
Agreed to Survey	1116	600	207	309
Not previously surveyed	1019	521	191	307
Rider Origin				
Resident	32%	31%	44%	27%
Non resident	57%	55%	49%	67%
Mix	10%	14%	7%	6%

2.2 Rider Volumes

A key component of the study is determining the number of riders who used the trail systems in the Sea to Sky corridor. In addition to the use of trail counters[3], estimates were made as to the average weekly use of the trails through analyzing the average number of riders that passed the surveyors. Because of the randomization of the survey stint schedule, shifts were spread throughout the week, occurring during the mornings, afternoons and early evenings at each of the locations. As a result, we were able to estimate the average number of riders who used the trails on a typical weekday and typical weekend by counting the number of riders who participated in the survey and the number of riders who passed the surveyors when they were engaged with survey

[2] A riding party was defined as the group of riders that agreed to ride together prior to the start of the day's ride (i.e. they did not meet up on the trail)

[3] Trail counters provided by the Ministry of Tourism, Sports and the Arts, the Squamish Regional District and the District of West Vancouver were used to monitor trails on the North Shore and Squamish in areas where the surveys were being conducted.

respondents. Essentially, the surveyors counted the number of riders who went past them during their shift, and these numbers were then used to provide the estimated number of riders per week. As surveyors were not able to count the number of riders that went by them at the Whistler Bike Park, volumes for the bike park are based of visitor totals from the Bike Park, which is then used in combination with survey response information to work out the number of times riders went to the bike park per visit.

The three tables below show the number of riders that were intercepted at each location over the survey period in the left hand, with the corresponding estimate of the number of riders per week in the right hand column.

Table 2.3: Intercepts and Riders per Week – North Shore

Location	Estimated Riders (June 1 – September 15)
Cypress Mtn. Pub. Wks	5,145
Mountain Highway	5,985
Old Buck	7,200
Riverside	7,500
Total	18,660

Table 2.4: Intercepts and Riders per Week – Squamish

Location	Estimated Riders (June 1 – September 15)
Alice Lake	2,130
Garibaldi Road	2,055
Perth	2,115
Plunge	1,215
Sorca Shelter	1,410
Total	8,910

Table 2.5: Intercepts and Riders per Week – Whistler

Location	Estimated Riders (June 1 – September 15)
Rainbow Parking Lot	4,590
Comfortably Numb	3,630
Function Junction	2,175
Lost Lake Trailhead	15,315
Bike Park**	76,671
Total (Valley Trails)	25,695

** Whistler Bike Park rider volume provided by the WBP

3.0 Trail Users Surveys [4]

3.1 Party Characteristics

The party size at all three locations is very comparable, with an overall average of 2.8 riders per group (Table 3.1). Overnight parties on the North Shore and in Squamish were slightly larger than same day parties, with the situation reversed in Whistler where same day parties were larger. While Table 3.1 showed that the three communities had a similar distribution of resident versus non resident riders, the proportion of riders staying overnight in a community increases markedly with the distance traveled from Vancouver.

The most common age group of riders was the 30-39 category; however riders in Whistler tended to be younger than those on the North Shore and Squamish. A large majority of the riders intercepted were male, especially on the North Shore.

Table 3.1: Non-Resident Riding Party Characteristics

	Total	North Shore	Squamish	Whistler Valley	Whistler Bike Park
Avg. Party Size	2.8	2.6	3.0	2.9	3.3
% on a day trip	80%	91%	79%	10%	11%
% staying overnight	20%	9%	21%	90%	89%
Avg. Nights of Overnight Parties	4.8	6.3	3.6	4.5	5.0
Age Profile					
18 and Under	11%	5%	5%	24%	13%
19-29	27%	29%	25%	22%	25%
30-39	41%	47%	47%	27%	39%
40-49	17%	15%	18%	18%	19%
50-59	4%	3%	4%	7%	4%
60-69	1%	0%	0%	3%	1%
70 and over	0%	0%	0%	0%	0%
Gender					
Male	77%	85%	71%	65%	74%
Female	23%	15%	29%	35%	26%

3.2 Rider Origin

Non-resident riders were asked to specify the location of their primary residence, with North Shore riders being asked for additional information if they were residents of the GVRD. Non-resident riders in Squamish were drawn heavily from Greater Vancouver and other Sea to Sky communities as compared to Whistler. Whistler, as expected, had the broadest origin of riders, with respondents from as far as Australia, the U.K., and Switzerland. The most common U.S. state of origin for Whistler was Washington, followed by California.

[4] Please note that the Whistler Bike Park figures have been included here for reference purposes only and have been separated out from the overall trail systems figure of $9.8 million presented in the Executive summary and Section 6.0.

Table 3.2: Non-Resident Riding Party Origin, Squamish & Whistler*

	Squamish	Whistler Valley	Whistler Bike Park
Greater Vancouver	69%	28%	18%
Sea to Sky Corridor	10%	3%	0%
Other BC	8%	9%	13%
Other Canada	6%	10%	10%
U.S.	8%	34%	41%
Overseas	8%	18%	22%

*Note that multiple responses were allowed to accommodate parties of mixed origins, thus the totals sum maybe more than 100%

As riders from GVRD municipalities other than North and West Vancouver were considered as 'non-residents' for the North Shore study, all riders who identified themselves as being from a GVRD municipality were asked to specify which area of the region they were from, with the results detailed in Table 3.3. The results show that just one-third of mountain bikers using North Shore trails actually reside in North or West Vancouver, with half originating from other GVRD municipalities. Just 12% of mountain bikers on the North Shore are true tourists (other BC, other Canada, US and Overseas combined).

Table 3.3: Origin of Resident & Non-Resident Riders, North Shore

	North Shore
North Shore	33%
Vancouver	29%
Burnaby/New Westminster/Port Moody	10%
Coquitlam/Port Coquitlam/Pitt Meadows/Maple Ridge	4%
Surrey/Langley/White Rock	4%
Richmond/Delta/Tsawwassen/Ladner	3%
Outside GVRD (eg Abbotsford)	5%
Sea to Sky Corridor	2%
Other BC	2%
Other Canada	3%
U.S.	5%
Overseas	2%

3.3 Non-Resident Spending

Table 3.4 illustrates the spending data collected from non resident riders in each location, broken down for same day and overnight riders on a 'per riding party' basis. One key finding from the study is that non-resident riders generate considerable spending at the destination bike shops, indeed our sample of 689 non resident riding parties found a total of 14 bicycles being purchased (reported bike shop spending greater than $1,000). These findings have been corroborated through discussions with bike shop owners on the North Shore and in Squamish.

The spending results show that distance traveled is a good indicator as to the likely expenditures for same day visitor parties. As GVRD residents make up the majority of same day visitors to all three riding areas, trips to the North Shore resulted in the lowest expenditure. Typically some riders would stop at a North Shore restaurant or bike store before returning home, however many parties did not. Furthermore, because of the proximity of neighbouring communities to the North Shore area, it is assumed that many riders may have made separate trips to purchase equipment from North Shore bike shops, thus these expenditures would not be gathered as part of the research. In contrast, same day riders to Squamish or Whistler would have made their purchases in combination with their ride, with the expenditure data being captured as part of the study.

Table 3.4: Riding Party Expenditures – per Party, per Trip

Location	North Shore		Squamish		Whistler Valley		Whistler Bike Park	
Type of trip (num of resp.)	Sameday (325)	Overnight (32)*	Sameday (83)*	Overnight (22)*	Sameday (10)*	Overnight (92)*	Sameday (13)*	Overnight (103)
Accommodation	$0.00	$292.81	$0.00	$95.72	$0.00	$629.57	$0.00	$576.14
Restaurant / Pub / Night Club	$26.02	$206.47	$42.40	$93.58	$38.00	$333.73	$170.00	$566.45
Groceries / Other F&B	$7.05	$56.09	$6.66	$89.61	$3.50	$105.08	$0.00	$153.44
Bike Park	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$230.38	$384.33
Rec & Ent	$1.45	$8.59	$3.57	$19.00	$0.00	$81.97	$0.00	$72.85
Bike Shop	$39.77	$245.38	$184.21	$109.35	$167.50	$58.81	$26.54	$180.16
Other Shopping	$3.67	$40.63	$0.90	$28.05	$30.00	$116.26	$8.08	$78.72
Own Vehicle expenses	$17.06	$23.13	$23.73	$74.36	$18.60	$32.76	$6.92	$32.93
Rental Vehicle	$1.23	$56.25	$0.00	$0.00	$0.00	$36.07	$0.00	$57.39
Local Transport	$0.47	$21.88	$0.00	$0.00	$7.00	$2.32	$0.00	$9.30
Other Spending	$0.69	$12.19	$3.73	$8.18	$0.00	$16.37	$0.00	$47.02
Total per party	$97.41	$963.41	$265.21	$517.85	$234.60	$1,296.70	$433.85	$2,080.01
Avg. Party Size	*2.5*	*3.2*	*2.9*	*3.0*	*2.8*	*3.1*	*4.4*	*3.2*
Avg. Nights		*6.3*		*3.2*		*4.5*		*5.0*
Avg. Spend per person per day	*$39.12*	*$48.32*	*$92.09*	*$53.94*	*$83.79*	*$93.48*	*$98.95*	*$133.13*

* Caution small sample

3.4 North Shore Bike Shops Data

Key North Shore bike shops were also interviewed to provide supplementary sales and consumer origin data to help substantiate the expenditure information gathered through the trail surveys. Responses collected at the bicycle stores are consistent with the expenditure results, North Shore bike shops indicated that they sell a number of bikes and other major components (forks, wheels, etc.) to residents from outside of the North Shore. Sales to other GVRD residents were high as the shops on the Shore are very competitive and carry arguably the best selection of bicycles, parts, and accessories in the GVRD, thus intra-regional sales are an important proportion of their business. Occasional sales to overseas residents were also reported; however sales to U.S. residents are generally low due to the strength of the Canadian dollar and the strong U.S. brand loyalty of American riders.

4.0 Mountain Bike Events Surveys

As previously mentioned, two events were included as part of the Sea to Sky project, the Test of Metal (TOM) cross-country race held on June 17 in Squamish, and the Crankworx Mountain Bike Festival, held in Whistler between July 22 and July 30. While the Crankworx Festival is much larger than the Test of Metal, both events are important for the local communities. In particular, the TOM boosts the number of riders who travel to Squamish to train and/or pre-ride the trails which considerably boosts the economic impact of the event for the community.

4.1 Test of Metal (June 17)

Each year, the town of Squamish plays host to the Squamish Mountain Bike Festival, featuring the epic Test of Metal (TOM), a 67 km cross-country mountain bike race as the marquee event. While many participants and the eventual winners of this year's race in both the men's and women's pro/elite category were residents of Squamish, the race attracts a large number of participants from the Greater Vancouver region, as well as residents of other parts of BC and Canada, and the North-Western United States. The race is capped at 800 entrants.

The TOM is hugely successful as a result of the considerable community involvement, with the event relying on over 300 volunteers from the community. In return, Squamish receives considerable exposure to many visitors from Vancouver and beyond. Furthermore, these visitors provide a considerable economic impact to Squamish through their spending both prior to the race and over the festival weekend. In working to understand this impact, two surveys were undertaken, a spectator survey and an Internet survey for participants which was administered immediately following the race.

A total of 5 surveyors (including MBTA directors Martin Littlejohn and Jimmy Young) completed a total of 250 spectator surveys during the main Test of Metal event, the cross country race, on Saturday, June 17. Of these spectators, 152 respondents (61%) were non residents.

As interviewing participants would have been difficult on the day of the event, TOM racers were invited to participate in a post-race Internet based survey, which collected an additional 171 participant responses (21% response rate). This survey asked for two key pieces of information, the first being the length of stay and expenditures associated with the race weekend. However, as many riders train extensively in Squamish prior to the race weekend, we also asked them the number of training rides they did, as well as the expenditures that they made on the last training ride[5]. We used these pre-event expenditures, in combination with information collected in Squamish prior to the TOM from the main survey, to estimate the economic impact of both the race and the training rides.

[5] We assumed that, on average, spending on the last ride would be representative of all training rides, thus average expenditure was by the average number of training rides to yield total pre-TOM rider spending.

4.2 Crankworx (July 22-30)

In conjunction with Tourism Whistler, a survey was undertaken at the Crankworx Mountain Bike Festival to yield results that would be compatible with the overall project. A total of 669 people agreed to participate in the survey and 487 people completed the entire survey (the full survey was only given to those who attended a Crankworx event). Volumetric estimates prepared by Tourism Whistler show that the event has continued to grow enormously in popularity, with an estimated 55,000 unique visitors attending one or more of the Crankworx events over the course of the 9 day festival, making it one of the premier mountain biking events in North America. While many Crankworx attendees were in Whistler specifically to attend the event, many others came to Whistler for different reasons. Survey respondents were asked to rank the importance of the event on their decision to travel to the resort on a 1 to 10 scale, and using a score of 8 or higher as the screening criteria to select those who came to Whistler specifically for Crankworx gives 42%, or 23,491 attendees from 7,142 visitor parties.

5.0 Economic Impact Results

For all of the regions and events considered below, the economic impact numbers refer to spending made by visitors to the region, defined as those who are traveling outside of their usual economic environment (i.e. someone who lives in Squamish but commutes to Whistler for work would not be considered a visitor, even though they came from outside of Whistler). All of the results were compiled using the Canadian Sport Tourism Alliance's Sport Tourism Economic Assessment Model (STEAM) Professional version[6]. All economic impacts were prepared for the period covering June 4 to September 17,2006.

5.1 North Shore

The majority of "true" out of town visitors to the North Shore (i.e. reside in communities outside the GVRD) were day visitors, consequently the average spending rates are lower than for some other communities. This being said, spending by non-GVRD residents on the North Shore totaled $475,000, creating nearly $445,000 in new economic activity (GDP), $300,000 in wages and taxes. Note that the North Shore bicycle shops state that the summer months represent between 45% and 60% of their overall sales, which provides a clear indication that mountain biking on the North Shore is a year round activity.

In addition to the expenditures of non-GVRD visitors, this project also surveyed non-North Shore GVRD riders regarding their spending while on the North Shore While their expenditures cannot be considered for use in conducting a visitor economic impact study, their expenditures can be considered an intra-regional transfer, which, over the June 4 to September 17 period totaled nearly $1.6 million. The survey result show that approximately $640,000 was spent at North Shore bike stores by non-North Shore GVRD residents, as well as nearly $420,000 at restaurants / pubs and nearly $275,000 in vehicle expenses.[7]

5.2 Squamish

Mountain biking resulted in a total expenditure of nearly $1.7 million to local businesses in Squamish, of which one third arose as result of hosting the community based Test of Metal Race. In sum, these expenditures resulted in an estimated total of $582,000 in wages and salaries being supported in the community through mountain biking. A total of $1.3 million was spent in Squamish by non-TOM out of town riders[8] over the survey period, resulting in new economic activity (GDP) of just over $1.0 million[9] in the province as a whole, supporting $424,000 in wages and salaries in Squamish.

[6] For more information, see Appendix 3 & 4, as well as www.canadiansporttourism.com
[7] Note that the only numbers compatible between the tourism economic impact survey and the expenditure survey are $475,000 and $1,600,000, leading one to be able to state that 'over the course of June 4 to September 17, non-North Shore riders spent in excess of $2 million on the North Shore'.
[8] Defined as non-Squamish residents interviewed after the race, as well as non-residents who indicated that they were not in Squamish to train for the TOM if they were surveyed prior to the race.
[9] This figure relates to the Squamish trail system only and excludes the TOM expenditures

5.3 Whistler Valley

A somewhat surprising finding of the study was that there are two distinct groups of mountain bike riders in Whistler, one group who rode on the Whistler Valley trails and the other group being those who rode in the Whistler Bike Park. There appears to be very little cross-over between the two groups, as less than 10% of those who were interviewed in the valley had ridden, or were planning to ride, the bike park on that trip. However, it is possible that riders from nearby areas like the Lower Mainland who ride both cross country and downhill may choose to do only one style of riding on a trip to Whistler. Many of the valley trails were very busy as compared to the North Shore and Squamish, especially the Lost Lake trail system. One key difference, however is that riders interviewed on the Whistler Valley trails were much more likely to be in Whistler for another reason, with the trail riding being a less important motivator for the trip (this is particularly apparent among Lost Lake riders). In contrast, responses collected at the Whistler Bike Park as well as in Squamish and the North Shore showed that mountain biking was the primary motivation for making the trip.

As is standard practice, the economic impact of Lost Lake trail riders have been reduced to reflect the average importance given for trail riding as a motivation for undertaking the trip, which equates to 69% of the total spending reported. Consequently, the adjusted expenditures of Whistler Valley riders totaled just over $6.6 million, resulting in new economic activity of $7.4 million and supporting wages and salaries of just over $5.0 million, of which more than $2.6 million was paid in Whistler.

5.4 Whistler Bike Park

The Whistler Bike Park attracted a substantial number of riders to Whistler, providing a considerable revenue boost to local businesses in the non-ski season. The survey results, in combination with the rider volume figures, indicate that Whistler Bike Park riders spent nearly $16.5 million in the summer of 2006. As a result, the increase in new economic activity associated with the bike park totaled $18.8 million, with wages and salaries totaling nearly $12.8 million and an estimated 384 jobs supported throughout the province.

5.5 Test of Metal

As previously noted, the impact of the Test of Metal data arises from three sources, participants on the day of the event, spectators at the event, and pre-race training conducted by the participants. In total, visitors and organizers of the spent nearly $400,000 in Squamish, resulting in new economic activity for the province of just over $400,000, supporting $275,000 in wages and salaries, of which $157,000 was paid to Squamish residents.

5.6 Crankworx

While significantly more information is contained within the Crankworx report (forthcoming), the event generated a sizeable economic impact in the Resort Municipality of Whistler, as visitor spending alone arising from the Festival totaled just over $11.5 million[10]. These expenditures generated just under $12.9 million in new economic activity for the province as a whole, supporting $8.7 million in provincial wages and salaries, including nearly $4.7 million in Whistler.

[10] Note that economic impact assessments of events, such as the TOM, also include the operational expenditures of the event organizers. These have not yet been made available and they will be incorporated as soon as they are.

6.0 Conclusions

Sea to Sky Trail System

Mountain biking is an important draw in the Sea to Sky corridor for both locals and out of town visitors alike. Over the course of the survey, many local residents told the surveyors that the trail systems they were riding on were an important consideration in their decision to move to the host communities, and for out of town visitors, the trail systems of the Sea to Sky corridor provide some of the best mountain biking in North America.

In total, the Sea to Sky trails are estimated to have brought nearly $10.3 million in non-resident spending to the host communities over the study period, resulting in $9.3 million of new economic activity throughout the province, supporting 194 jobs and just over $6.3 million in wages and salaries (Table 6.1).

Table 6.1 Sea to Sky Trail System Expenditures and Economic Impacts

	Total	North Shore*	Squamish	Whistler
Initial Expenditure	$10,323,600	$2,044,212	$1,674,046	$6,605,342
Total GDP	$9,334,321	$444,858	$1,474,006	$7,415,457
Wages & Salaries	$6,345,036	$301,530	$1,003,081	$5,040,425
Employment	194.8	9.6	30.0	155.2
Industry Output	$20,434,585	$1,049,191	$3,590,666	$15,794,728
Taxes				
Federal	$2,172,327	$106,762	$359,468	$1,706,097
Provincial	$1,763,772	$100,301	$212,897	$1,450,574
Municipal	$624,267	$17,970	$175,818	$430,479
Total Taxes	$4,560,365	$225,033	$748,183	$3,587,149

*Expenditures of non-North Shore GVRD riders are included in the initial expenditures category. However, as their trips cannot be considered as an 'out of town' visit, their expenditures are not included in the economic impacts results (i.e. Total GDP).

Whistler Bike Park and the Crankworx Mountain Bike Festival

In addition to the trail systems, surveys were also conducted at the Whistler Bike Park and the Crankworx Mountain Bike Festival, both of which resulted in substantial visitor and operational expenditures in Whistler, leading to considerable benefits to Whistler and the rest of the Province (Table 6.2). Both had very high initial expenditures due to the very large number of riders / spectators attracted, with a high proportion being from out of town and spending a considerable amount per riding party in Whistler. The initial expenditures of non-resident riders at the bike park were in excess of $16.2 million and Crankworx resulted in more than $11.5 million of spending in the community.

Table 6.2 Other Sea to Sky Mountain Bike Impacts

	Whistler Bike Park	Crankworx
Initial Expenditure	$16,236,267	$11,957,485
Total GDP	$18,823,005	$13,440,190
Total Wages & Salaries	$12,784,971	$9,150,157
Total Jobs	384.1	268.0
Total Industry Output	$39,140,975	$28,496,935
Taxes		
Federal	$3,846,213	$3,039,433
Provincial	$3,264,615	$2,610,233
Municipal	$944,861	$730,777
Total	$8,055,689	$6,380,433

Western Canada
Mountain Bike Tourism Association
c/o 2654 Eton Street, Vancouver, BC , Canada V5K 1K1
Email: info@mbta.ca

Appendices

Appendix 1 – Western Canada Mountain Bike Tourism Association (MBTA)

About Us

The Western Canada Mountain Bike Tourism Association (MBTA) was initially developed by three mountain biking individuals from different tourism backgrounds that have a common vision of enhancing Western Canada's mountain biking tourism product in a sustainable and market focused manner that is supported by community stakeholders and resort operators.

> *Our goal is to have Western Canada recognized for its world class sustainable trails and abundant mountain bike experiences that are supported by enthusiastic communities and operators offering high quality services.*

The concept gained momentum following the inaugural Northshore World Mountain Bike Conference held in North Vancouver in August 2004, which highlighted the potential for mountain bike tourism in British Columbia and demonstrated the high level of interest from communities and resorts throughout BC.

The MBTA believes that by working together British Columbia can exemplify standards of sustainability in mountain bike tourism that will not only care for natural areas, but also create local opportunities and support community pride.

Directors

Jimmy Young, Martin Littlejohn, Donna Green, Francis Argouin and Cliff Miller

Current initiatives underway for the MBTA include:

- Sea to Sky Mountain Biking Economic Study – summer 2006
- Bike Parks of BC - Marketing and Development Initiatives in partnership with Tourism BC 2006/07
- Participation in the Recreational Mountain Biking on Provincial Crown Land Working Group through the BC Ministry of Tourism, Sport and the Arts
- Participation on the Whistler Cycling Committee for Whistler 2020 Strategy
- Assisting with the Vancouver Coast and Mountains Tourism Region – Outdoor Adventure Directory 2007
- Presentations at the Canada West Ski Areas Assocation Conference May 2006 and Gravity Logic Bike Park Management Seminar in September 2006.

Appendix 2 – Stint Schedule

Table A3.1 North Shore

Date	Weekday	Location	Hours	Surveys	Completes	Riders
Jun 10	Sat	Mtn Hwy	4.25	18	18	47
Jun 10	Sat	Old Buck	4	15	14	38
Jun 11	Sun	Cypress Works	2.75	8	8	28
Jun 11	Sun	Riverside	3.5	9	8	25
Jun 16	Friday	Old Buck	1	2	2	8
Jun 17	Sat	Cypress Works	4	9	7	21
Jun 18	Sun	Mtn Hwy	4	21	16	49
Jun 25	Sun	Mtn Hwy	4	9	8	18
Jun 27	Tues	Riverside	3.5	7	6	25
Jun 27	Tues	Cypress Works	3	8	5	24
July 1	Sat	Mtn Hwy	4	10	8	18
July 6	Thursday	Riverside	3	8	8	27
July 8	Sat	Riverside	4	11	9	23
July 8	Sat	Cypress Works	3.5	10	8	27
July 8	Sat	Old Buck	4	15	13	33
July 9	Sun	Cypress Works	2	2	2	7
July 11	Tues	Old Buck	4	25	20	41
July 15	Sat	Cypress Works	4	4	3	9
July 15	Sat	Mtn Hwy	4	26	25	46
July 15	Sat	Old Buck	3.5	14	10	22
July 22	Sat	Riverside	2	9	7	17
July 22	Sat	Mtn Hwy	3	10	8	19
Jul 23	Sun	Old Buck	4	26	21	59
July 28	Friday	Cypress Works	3	2	2	2
July 29	Sat	Mtn Hwy	4	25	21	38
July 30	Sun	Cypress Works	1	5	4	9
July 30	Sun	Old Buck	4	10	8	20
July 31	Mon	Mtn Hwy	2	4	3	5
Aug 1	Tues	Riverside	1	2	2	3
Aug 5	Sat	Old Buck	3.5	28	19	40
Aug 5	Sat	Cypress Works	4	6	4	14
Aug 6	Sun	Old Buck	7	19	14	26
Aug 7	Mon	Old Buck	3.5	19	15	43
Aug 7	Mon	Mtn Hwy	3	11	8	13
Aug 11	Friday	Cypress Works	2.5	9	8	20
Aug 13	Sun	Old Buck	2.5	7	6	20
Aug 15	Tues	Mtn Hwy	3.5	12	10	21
Aug 19	Sat	Old Buck	4	17	13	29
Aug 19	Sat	Cypress Works	3.5	11	8	21
Aug 20	Sun	Mtn Hwy	4	21	18	46
Aug 20	Sun	Cypress Works	2	4	4	11

Date	Weekday	Location	Hours	Surveys	Completes	Riders
Aug 26	Sat	Mtn Hwy	4	18	14	39
Aug 26	Sat	Old Buck	3	19	17	45
Aug 27	Sun	Cypress Works	2	4	2	5
Aug 27	Sun	Old Buck	4	21	15	32
Sep 2	Sat	Mtn Hwy	4	17	14	25
Sep 3	Sun	Cypress Works	1	1	1	1
Sep 6	Wed	Old Buck	4	6	5	7
Sep 7	Thursday	Old Buck	4	13	10	29
Sep 10	Sun	Old Buck	4	15	13	34
Sep 10	Sun	Riverside	4	10	9	24

Table A3.2 Squamish

Date	Weekday	Location	Hours	Surveys	Completes	Riders
June 4	Sun	TOM S/F	4	4	3	9
June 4	Sun	TOM S/F	3	10	8	28
June 8	Thurs	Perth Dr	1	1	1	3
June 11	Sun	TOM S/F	5	24	24	72
June 12	Mon	Alice Lake	1	1	1	1
June 13	Tues	TOM S/F	1	1	1	2
June 16	Fri	Garibaldi Rd	1	1	1	8
June 16	Fri	TOM S/F	1	1	1	6
June 23	Fri	Perth Dr	4	12	11	17
June 25	Sun	TOM S/F	2	6	5	13
June 25	Sun	Alice Lake	1.5	5	4	10
July 3	Mon	Alice Lake	2	3	3	6
July 9	Sun	Perth Dr	1	1	1	2
July 11	Tues	Alice Lake	3	4	4	8
July 12	Wed	Plunge	1	1	1	2
July 16	Sun	Garibaldi Rd	2	4	4	6
July 16	Sun	Perth Dr	3	13	10	22
July 22	Sat	Plunge	2	2	2	6
July 22	Sat	Perth Dr	4	11	7	22
July 26	Wed	Garibaldi Rd	4	13	11	25
July 26	Wed	Garibaldi Rd	1	2	2	6
July 30	Sun	TOM S/F	2	5	5	18
July 30	Sun	Plunge	1	1	1	4
Aug 1	Tues	Sorca Shelter	1	2	1	1
Aug 1	Tues	Garibaldi Rd	1	1	1	4
Aug 5	Sat	Various	4	6	6	13
Aug 11	Fri	Garibaldi Rd	2	3	3	9
Aug 18	Fri	Crumpit Woods	1	3	3	7
Aug 18	Fri	Sorca Shelter	1	3	3	5
Aug 19	Sat	Sorca Shelter	3	5	5	12
Aug 19	Sat	Garibaldi Rd	1	1	1	2
Aug 20	Sun	Sorca Shelter	4	6	6	13

Date	Weekday	Location	Hours	Surveys	Completes	Riders
Aug 20	Sun	Perth Dr	4.5	13	11	25
Aug 24	Thurs	Garibaldi Rd	4	3	3	5
Aug 25	Fri	Plunge	2	3	1	2
Aug 26	Sat	Garibaldi Rd	1	1	1	2
Aug 27	Sun	Sorca Shelter	2	4	3	8
Aug 27	Sun	Garibaldi Rd	4	8	7	18
Aug 27	Sun	Perth Dr	3.5	9	9	23
Aug 31	Thurs	Perth Dr	4	2	2	4
Sep 1	Fri	Perth Dr	4	4	3	15
Sep 2	Sat	Garibaldi Dr	1	1	1	3
Sep 3	Sun	Perth Dr	2.5	6	6	17

Table A3.3 Whistler

Date	Weekday	Location	Hours	Surveys	Completes	Riders
Jun 24	Sat	WBP	1.5	7	7	22
Jun 25	Sun	Lost Lake	4	14	14	82
Jun 27	Tues	Comfortably Numb	2	3	2	2
Jun 28	Wed	Emerald	3	6	3	9
Jun 29	Thurs	Other	4	6	3	4
Jun 30	Friday	Emerald	2	1	1	2
Jul 1	Sat	Comfortably Numb	1	1	1	1
Jul 4	Tues	Other	4	6	5	17
Jul 5	Wed	WBP	3	15	15	41
Jul 8	Sat	Rainbow Mtn	2.5	6	6	8
Jul 8	Sat	WBP	3.5	14	14	39
Jul 8	Sat	Lost Lake	4	15	15	30
Jul 8	Sat	Rainbow Mtn	1	1	0	0
Jul 9	Sun	Lost Lake	2	9	7	21
Jul 11	Tues	Lost Lake	2.5	11	8	22
Jul 13	Thurs	Comfortably Numb	2	3	2	4
Jul 14	Friday	WBP	4	25	17	62
Jul 16	Sun	Comfortably Numb	4	4	4	11
Jul 19	Wed	Comfortably Numb	1	2	2	7
Jul 23	Sun	Comfortably Numb	3	3	3	5
Jul 24	Sun	Lost Lake	3	7	7	17
Jul 25	Tues	Rainbow Mtn	4	12	5	10
Jul 26	Wed	Function Junction	3.5	5	2	3
Jul 28	Friday	Lost Lake	1	1	1	1
Aug 1	Tues	WBP	2.5	20	11	35
Aug 5	Sat	Lost Lake	3.5	17	16	47

Western Canada
Mountain Bike Tourism Association
c/o 2654 Eton Street, Vancouver, BC , Canada V5K 1K1
Email: info@mbta.ca

Date	Weekday	Location	Hours	Surveys	Completes	Riders
Aug 5	Sat	Function Junction	4	3	3	9
Aug 6	Sun	WBP	0.25	2	2	6
Aug 6	Sun	Function Junction	7	5	5	16
Aug 12	Sat	Rainbow Mtn	2	8	8	29
Aug 12	Sat	Lost Lake	4	15	13	44
Aug 13	Sun	Function Junction	1	2	2	5
Aug 13	Sun	WBP	3.5	15	14	56
Aug 17	Thurs	Lost Lake	3	11	7	20
Aug 18	Friday	Comfortably Numb	1	1	1	4
Aug 19	Sat	Comfortably Numb	1	2	2	8
Aug 20	Sun	Lost Lake	2.5	19	7	13
Aug 24	Thurs	WBP	3	12	10	30
Aug 25	Friday	Rainbow Mtn	1	3	3	5
Aug 27	Sun	WBP	2	15	10	37
Aug 28	Mon	WBP	2.5	18	8	24
Sept 1	Friday	Lost Lake	2	6	4	15
Sept 6	Wed	WBP	3	14	12	40
Sept 8	Friday	WBP	2.5	9	2	23
Sept 10	Sun	WBP	2	5	5	12
Sept 12	Tues	WBP	1	4	4	8
Sept 14	Thurs	WBP	1	11	6	21

Appendix 3 – STEAM Pro Information

Background

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

Technical Description of the Impact Methodology used by STEAM-Pro

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

All impacts generated by the model are given at the direct impact stage (i.e. the "front line" businesses impacted by tourism expenditures), indirect impact stage (i.e. those industries which supply commodities and/or services to the "front line" businesses) and the induced impact stage (induced consumption attributable to the wages and salaries generated from both the direct and indirect impact). In this sense, the model is closed with respect to wages. Imports are also determined within the model, so the model is closed with respect to imports. Exports are not endogenized (i.e. additional exports are not assumed with the induced impact) which consequently generates more conservative impacts. Another assumption of the model, which leads to more conservative impacts, is that not all commodities and/or services purchased are assumed to have at least one stage of production within the province. This assumption is crucial for souvenirs, gasoline and other commodities.

Taxes and employment are key economic impacts and as such must involve the use of both input-output and econometric techniques. The data embodied in the provincial input-output tables are from 1996, while taxes and employment incorporate current coefficients and/or rates. These coefficients and/or rates are then applied to measures determined within the input-output framework of the model. Determining the level of taxes and employment outside the input-output framework of the model allows rates and/or coefficients to be selectively changed for updating or in order to conduct a scenario analysis.

Regional (Sub-Provincial) Impact Methodology

The method used to simulate intraprovincial commodity flows and ultimately regional impacts follows directly from regional economics principles. The principle is referred to as the "gravity model". Basically the "gravity model" states that the required commodity (& service) inputs will be "recruited" in a manner that takes into consideration economies of scale (i.e. production costs),

transportation costs and the availability of specific industries. Economies of scale (i.e. lower production costs) are positively correlated with input demand while greater transportation costs are negatively correlated with input demand. Fulfilling that demand from other provincial regions is contingent on the fact that the specific industry does actually exist. An advantage of using the "gravity model" to simulate intraprovincial commodity flows is that as the industrial composition of the labour force changes, or as new industries appear for the first time in specific regions, the share of production between the various sub-provincial regions also 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 4 – Glossary

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

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

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

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

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

NOTE: *The multiplier (A), Total/Initial, represents the total (direct, indirect and induced) impact on GDP for every dollar of direct GDP. This is a measure of the level of spin-off activity generated as a result of a particular project. For instance if this multiplier is 1.5 then this implies that for every dollar of GDP directly generated by "front-line" tourism businesses an additional $0.50 of GDP is generated in spin-off activity (e.g. suppliers).*

The multiplier (B), Total/$ Expenditure, represent the total (direct, indirect and induced) impact on GDP for every dollar of expenditure (or revenue from a business perspective). This is a measure of how effective project related expenditures translate into GDP for the province (or region). Depending upon the level of expenditures, this multiplier ultimately determines the overall level of net economic activity associated with the project. To take an example, if this multiplier is 1.0, this means that for every dollar of expenditure, one dollar of total GDP is generated. The magnitude of this multiplier is influenced by the level of withdrawals, or imports, necessary to sustain both production and final demand requirements. The less capable a region or province is at fulfilling all necessary production and final demand requirements, all things being equal, the lower the eventual economic impact will be.

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