

Sea to Sky Mountain Biking Economic Impact Study

Squamish Report



Western Canada

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Executive Summary

Squamish is endowed with an abundance of outdoors activities, ranging from rock climbing to windsurfing, and is becoming increasingly known for its mountain bike trail system and active mountain bike community. In addition to the trail systems, the town plays host to the annual Test of Metal cross country race in mid June each year, attracting hundreds of non-resident riders. As a result of the visitor draw from the trails and the Test of Metal event, mountain biking generates considerable economic activity over the summer months, and thus quantifiable data is needed to demonstrate the value of the trails to further encourage investment in infrastructure, and establish appropriate trail management agreements and practices. 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, in addition to Squamish, includes the communities of Whistler and the North Shore (North Vancouver and West Vancouver).

Squamish has a large and diverse trail network which posed some challenges for the study. Identifying key survey points with consistent high rider traffic proved difficult. The data collected to determine per person spending is considered reliable; however, due to the numerous trails, rider volumes were difficult to determine. Rider volumes are thus conservative estimates based on survey data, trail counters and surveyor observations.

Total spending in Squamish attributable to mountain biking totaled nearly \$2.1 million over the period June 4 to September 17, supporting an estimated \$1.9 million in new economic activity (GDP).

Squamish has considerable potential to build on its reputation as a mountain biking destination in the Sea to Sky Corridor. The study found that the trail system alone currently generates \$1.6 million in spending by non-residents and the Test of Metal adds a further \$400,000.

Unauthorized trails and lack of long term agreements with land owners and managers is a major hurdle for mountain bikers and authorizing trails in the Squamish area. The true economic potential for mountain biking in Squamish will depend on its ability to find solutions to these challenges and develop further services (e.g bike rentals) and infrastructure to cater to visitors wanting to experience the trails.

As mountain biking continues to develop as a tourism product Squamish, along with the North Shore and Whistler, will collectively be able to promote the Sea to Sky as one of the premier destinations for biking in the world.



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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-oriented Test of Metal cross-country race in Squamish (June) and the spectator-oriented 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 involved 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.

This document focuses exclusively on providing in-depth detail on Squamish, focusing specifically on the Squamish trail system (for findings related to the entire corridor see the Sea to Sky Mountain Biking Economic Study – Overall Results Report). 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, with section 3 providing an in depth description of the survey results from Squamish. Subsequently, section 4 presents the some of the top-line results from the Test of Metal economic impact assessment, which is presented as a separate document, and section 5 provides the visitor economic impact results of mountain biking in Squamish. The appendix contains an overview of the MBTA, survey stint schedule, STEAM Pro economic impact model and a glossary of the terms used.



2.0 Methodology

The mountain biking survey was launched on June 4 in Squamish, with all surveys being finished by September 10. A total of 4-6 surveyors were hired the community to conduct interviews with mountain bikers, and the surveys took place at 4 popular trail access points. Over the course of the summer, some of the survey locations in Squamish shifted due to low visitor volumes, as noted in 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.

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 all possible survey shifts including morning and afternoon shifts for each day at all of the location for both weekdays and weekends. Shifts were then selected at random from the weekday and weekend list to reach a total of 43 stints. The stints were then balanced to ensure an appropriate balance between the different locations in Squamish, as well as the month, day of the week, and time of day of surveying.

Squamish has a large and diverse trail network which posed some challenges for the study. Survey locations were chosen as they were considered main access points to the most popular trail areas. The goal was to achieve approximately 15 completed surveys per surveyor shift (4 hours long). Surveyors had the option to ride around the trails in the vicinity of the trail access point. Feedback from surveyors was used to adjust survey locations if rider volumes and completed surveys were consistently low at a specific location.

Table 2.1 Squamish Survey Locations

	Squamish
Survey Locations	TOM Start / Finish (until June 30)
	Top of Perth Drive
	Garibaldi Rd.
	Alice Lake
	Other

Surveyor turnover, combined with a large and diverse trail network and lower than anticipated rider volumes, posed challenges in Squamish. Consequently the number of stints completed and the number of responses was lower in Squamish than in Whistler and on the North Shore.

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



2.1 Survey Sample

A total of 213 riding parties² were intercepted in the Squamish, of which 6 (2.8%) declined to participate and a further 14 (6.5%) of riding parties were composed of riders who had all been previously intercepted. This left a total of 193 valid riding party surveys collected over the 13 week period. These riding parties were then categorized as to whether they were residents of the area (44% of the sample), non residents (49%), or a mixed party comprised of resident and non resident riders (7%). **Note that minimal information was gathered from residents as spending did not represent “new” money into the community.** 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. 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 30 days (Table 2.2).

In comparison to the North Shore and Whistler, the Squamish trail system was used by local riders, thereby indicating that the trail systems are an important feature for Squamish residents. This was anecdotally supported by the comments received by the surveyors from many riders who indicated that the trail system was one of the primary factors in their decision to live in Squamish.

Table 2.2: Number of Responses & Rider Origin

	Squamish Total
Total Intercepts	213
Refused to participate	6
All previously surveyed	14
Total Valid Surveys	193
Rider Origin	
Resident	44%
Non resident	49%
Mix	7%

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)



2.2 Rider Volumes

A key component of the study was determining the number of riders who used the trail systems in Squamish. In addition to the use of trail counters, 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 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. Of the three communities in the Sea to Sky study, Squamish proved the most challenging in terms of estimating rider volumes, due to the lower overall volume of riders and the fragmented nature of the trail system with multiple entry points.

Table 2.3: Estimated Rider Volume– Squamish

Location	Estimated Weekly Volumes	Estimated Riders (June 1 – September 15)
Alice Lake	142	2,130
Garibaldi Road	137	2,055
Perth	141	2,115
Plunge	81	1,215
Sorca Shelter	94	1,410
Total	594	8,910



3.0 Squamish Trail Users Surveys

A great deal of information was gathered from mountain bikers participating in the trail users' survey.

3.1 Party Characteristics

The average party size in Squamish was 3.0 riders per group. Overnight parties in Squamish were slightly larger in size than same day parties. As might be expected, the proportion of riders staying overnight in a community increased 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 in Squamish. A large majority of the riders intercepted in Squamish, roughly 7 out of 10, were male.

Table 3.1: Non-Resident Riding Party Characteristics

	Squamish
Avg. Party Size	3.0
% on a day trip	79%
% staying overnight	21%
Avg. Nights of Overnight Parties	3.2
Age Profile	
18 and Under	5%
19-29	25%
30-39	47%
40-49	18%
50-59	4%
60-69	0%
70 and over	0%
Gender	
Male	71%
Female	29%



3.2 Rider Origin

Non-resident riders were asked to specify the location of their primary residence. Non-resident riders in Squamish were drawn heavily from Greater Vancouver and other Sea to Sky communities.

Outside of BC, Alberta accounted half of Squamish's inter-provincial visits, while top U.S. markets included Washington (44% of U.S. riders), and Colorado (22%). The top international market on the Squamish trails was Australia, with other countries mentioned including the U.K., France, Switzerland, Denmark, and Holland.

Table 3.2: Non-Resident Rider Origin

	Squamish
Greater Vancouver	68%
Sea to Sky Corridor	10%
Other BC	7%
Other Canada	6%
U.S.	8%
Overseas	7%

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



3.3 Length of Stay/Frequency of Riding

Overnight riders to Squamish an average length of stay of 3.2 nights, with camping being the most common type of accommodation used (52%). This in part is due in part to the quality of camping in Squamish with excellent sites such as Alice Lake and Stawamus Chief. Staying with friends and relatives accounted for nearly 1/3 of overnight visitors (29%).

Same day and overnight visitors to Squamish were also asked as to how often they rode in Squamish and other locations over the previous 12 months. Only 4% of respondents indicated that this was their first ride in Squamish, 36% indicating they had ridden between 1-5 times, while 39% indicated that they had ridden between 10 and 29 times. As the vast majority of riders were from the GVRD, other Sea to Sky destinations were also popular, such as the North Shore, Whistler, and elsewhere in BC.

Table 3.3: Reported Ride Frequency in Squamish in the Last 12 Months

	North Shore	Squamish	Whistler	Whistler Bike Park	elsewhere in BC	elsewhere in Canada	elsewhere in U.S.
Never	21%	4%	46%	52%	28%	74%	59%
1-5 Times	24%	36%	30%	32%	27%	10%	17%
5-10 Times	9%	17%	11%	5%	21%	8%	9%
10-29 Times	15%	39%	3%	7%	15%	1%	7%
30-52 Times	10%	3%	7%	3%	5%	2%	2%
53-99 Times	7%	2%	3%	1%	4%	2%	2%
100 or more Times	15%	0%	1%	0%	1%	3%	4%



3.4 Non Resident Spending in Squamish

Table 3.4 illustrates the spending data collected from non resident riders in Squamish, 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 account for considerable spending at Squamish bike shops, with a number of non-resident riding parties reporting bike shop spending greater than \$1,000. These findings have been corroborated through discussions with a bike shop in Squamish.

As mentioned previously, 52% of non-resident riding parties that spent one or more nights in Squamish chose to camp, which explains the relatively low expenditure on accommodation and overall spent for overnight visitors.

Table 3.4: Riding Party Expenditures in Squamish – per party, per trip

Squamish	Type of trip (num of resp.)	
	Sameday (83)	Overnight (22)*
Accommodation	\$0.00	\$95.72
Restaurant / Pub / Night Club	\$42.40	\$93.58
Groceries / Other F&B	\$6.66	\$89.61
Bike Park	\$0.00	\$0.00
Rec & Ent	\$3.57	\$19.00
Bike Shop	\$184.21	\$109.35
Other Shopping	\$0.90	\$28.05
Own Vehicle expenses	\$23.73	\$74.36
Rental Vehicle	\$0.00	\$0.00
Local Transport	\$0.00	\$0.00
Other Spending	\$3.73	\$8.18
Total per party	\$265.21	\$517.85
<i>Avg. Party Size</i>	<i>2.9</i>	<i>3</i>
<i>Avg. Nights</i>		<i>3.2</i>
<i>Avg. Spend per person per day</i>	<i>\$92.09</i>	<i>\$53.94</i>

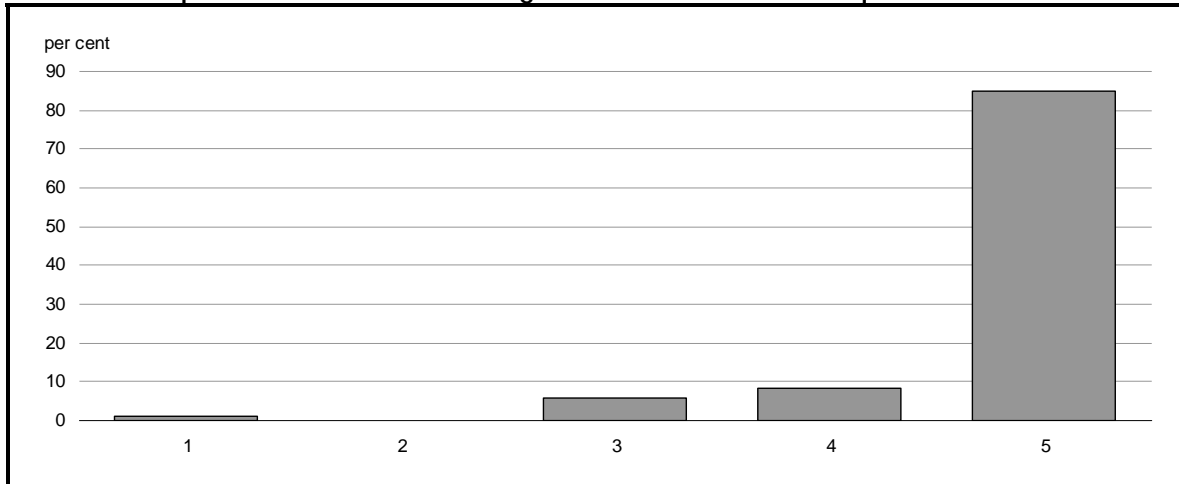
*Note: small sample size (n=22)



3.5 Mountain Biking as a Trip Motivator

Non residents were asked to assess to what degree mountain biking influenced their decision to come to Squamish that day (1 = no influence and 5 = primary reason). The majority (85%) of non-residents surveyed indicated that mountain biking was the most important factor in their decision to come to Squamish.

Table 3.5: Importance of Mountain Biking in Decision to Come to Squamish





3.6 Information Sources

Riders were asked to identify key sources of information that influenced their decision to mountain bike in Squamish. A large portion (41%) had been to Squamish for mountain biking previously, showing the community attracts a very loyal group of riders comprised of mainly day trippers from the Lower Mainland (Table 3.6). Word of mouth was a very important source of information (mentioned by 43% of respondents). This suggests little information is available from traditional marketing and media sources. Preparation and participation in race events was another important factor that influenced non-residents to come to Squamish (28% of respondents).

Table 3.6: Information Sources Utilized by Rider Origin

	All Non-Resident	Non-Sea to Sky & Non-GVRD*
Word of mouth prior to arrival	43%	55%
Have ridden here previously	41%	10%
Preparation/Participation in race	28%	30%
Other	20%	30%
Mountain bike specific website	6%	10%
Squamish-specific website	2%	5%
Magazines article(s)	1%	5%
Decided upon arrival in destination	1%	5%
Newspaper article(s)	0%	0%
Magazine advertisements	0%	0%
Newspaper advertisements	0%	0%
Mountain bike movie/video(s)	0%	0%

*All those originating from Other BC, Other Canada, U.S. or Overseas. Note: small sample size (n=20)



3.7 Satisfaction with Squamish and Likelihood to Return

Riders were also asked to rate the importance of specific features when considering a mountain bike destination for a multi day trip on a 5 point scale (1 = not important and 5 = very important). Those awarding a score of 4 or higher for an attribute were asked how they would rate Squamish on that feature. Responses indicated that number of trails and variety of trails are the most important factors for choosing a mountain biking destination among non residents riding in Squamish. The community clearly has what riders are looking for since average ratings for all the specified features exceeded the perceived importance of those features when choosing a destination.

Table 3.7: Importance of Features and Satisfaction with Squamish

	Perceived Importance	Rating of Squamish
Variety of trails	4.2	4.5
Number of trails	4.1	4.5
Bike friendly amenities	3.6	4.4
Reputation of destination	3.6	4.5
Ease of access	3.5	4.5
Cost	3.4	4.3
Weather	3.3	4.6
Availability of other activities	3.1	4.3

All non resident respondents were asked how likely there were to return to Squamish to ride. Squamish clearly satisfies mountain bikers as 80% said they were very likely to return within the next 2 years.

Table 3.8: Likelihood of Return to Squamish for Mountain Biking in the next 2 years

	Total
Very likely	80%
Somewhat likely	10%
Neutral	4%
Somewhat unlikely	2%
Not likely at all	2%
Very unlikely	2%



3.8 Riding Preferences

Riders were asked to identify what types of mountain biking they liked to participate in. Multiple responses were permitted. Cross-country was clearly the most preferred at 94%, followed by downhill (including freeriding) at 37%. Riding on dirt roads and old rail beds was selected by 16% of riders in Squamish.

Table 3.9: Preferred Type of Riding

	Squamish
Cross-country	94%
Downhill	37%
Dirt road or rail-trail mountain biking	16%
Dirt jumping	4%
Other	4%
Trials	1%

*Note: total sums to more than 100% as multiple responses were allowed

In terms of preferred trail types, most riders like More Difficult (77%) and Advanced (61%) trails. This finding supports the notion that people are drawn to the Squamish for its challenging trails and epic rides.

Table 3.10: Preferred Trail Type

	Squamish
Easiest - Flat and wide - no special skills required	24%
More Difficult - Moderate single track - small structures / drops - good hiking	77%
Advanced - Steeper & tougher - some mandatory air / drops, strenuous hiking	61%
Expert - Large drops, very high, very skinny structures, steep slopes, exposed situations – difficult to walk	19%

*Note: total sums to more than 100% as multiple responses were allowed



4.0 Test of Metal

Each year, the town of Squamish, plays host to the Squamish Mountain Bike Festival, featuring the epic Test of Metal (TOM) mountain bike race, a 67 km race as the marquee event. While many participants and the eventual winners of the men's and women's pro/elite category were residents of Squamish, the race attracts participants from the Greater Vancouver region, as well as other residents of BC and Canada, as well as some riders from the Northwestern United States.

4.1 Spectator Spending

In calculating the economic impact of the TOM³, the key component was calculating the spending of both riders and spectators while in Squamish. An on-site survey was conducted of the spectators on the Saturday of the festival that featured the TOM cross country race, while an Internet survey was provided for participants of the race. Table 4.1 and 4.2 detail the results of the spectator survey.

Table 4.1 TOM Spectator Survey Demographics

	Total*	Squamish	Sea to Sky	GVRD	Other BC	Long Haul
Count	n=248	n=98	n=24*	n=77	n=33*	n=16*
Percentage		40%	10%	31%	13%	6%
Average Party Size	2.4	2.8	2.1	2.0	2.6	2.2
Percent Attending on Sunday	23%	26%	4%	16%	24%	69%

*caution: small sample size

Table 4.2 TOM Spectator Expenditures in Squamish

	Total	Sea to Sky*	GVRD	Other BC*	Long Haul*
Accommodation	\$26.20	\$8.33	\$4.16	\$55.76	\$99.69
Restaurant / Pub	\$56.93	\$24.76	\$34.16	\$69.85	\$189.38
Groceries	\$26.81	\$39.52	\$16.26	\$30.61	\$56.63
Recreation & Entertainment	\$4.83	\$1.90	\$0.71	\$0.91	\$37.50
Bicycles / Parts / Repairs	\$28.00	\$16.19	\$44.29	\$3.64	\$20.63
Shopping	\$15.97	\$9.76	\$5.58	\$17.12	\$71.56
Own Vehicle Expenses	\$32.36	\$20.48	\$23.31	\$46.64	\$65.00
Rental Vehicle	\$4.53	\$0.00	\$0.39	\$4.55	\$31.25
Local Transportation	\$0.31	\$0.81	\$0.00	\$0.91	\$0.00
Other Transportation	\$4.43	\$2.38	\$6.75	\$0.00	\$5.94
Total Expenditure	\$200.38	\$124.14	\$135.61	\$229.97	\$577.56

*caution: small sample size

³ This report details the economic impact of the participants and spectators of the Test of Metal race only, and does not include the spending of other participants in the Squamish Mountain Bike Festival such as the downhill, teen metal, and kids metal races



4.2 TOM Race Participant Spending

As surveying participants on the day of the event would be difficult, racers were invited to participate in an Internet based survey at the end of the festival with an incentive of a guaranteed entry into the 2007 race for one lucky respondent. Participation was very high with 175 of the 772 riders completing the survey, however 4 riders were excluded from the survey as they had been previously intercepted as part of the larger Sea to Sky survey and 2 surveys were incomplete, yielding a sample size of 169 participants. Comparing the second and third rows of Table 4.3 shows that the Internet sample obtained was very similar to the overall composition of race participants, based on the information contained in the race registration database.

The majority of participant respondents were from the GVRD, with out-of-town participants were slightly over-represented in the sample, as the registration records indicate that 21% of riders were from Squamish. Vancouver riders were much more likely than other visitors to visit Squamish as a day trip, with 83% attending the mountain bike festival on the Saturday only, and only 21% staying overnight.

Table 4.3 TOM Participant Survey Demographics

	Total	Squamish	GVRD	Other BC	Long Haul
Responses	169	30*	90	35*	14*
Response (%)	100%	18%	53%	20%	8%
Race Registration (%)	100%	21%	47%	23%	9%
Saturday only (%)	63%	10%	83%	63%	50%
Sat & Sun (%)	33%	90%	12%	34%	50%
Avg. Party Size	3	2.6	3.1	2.9	3.2
Overnight (%)	33%	N/A	21%	80%	71%

*caution: small sample size

In addition, riders were asked about their participation in other races. For a substantial number of participants, the TOM was the only race they were planning to take part in during 2006, as indicated by half of Squamish participants and one-third of GVRD respondents. Not surprisingly, those riders that came from further abroad were active racers, with all non-BC riders participating in at least one other race in 2006. For the local riders that were active racers, many were participating in the '2006 Hell of a Series Marathon' as indicated by over forty percent of Squamish riders responding to the survey, and also one-third of all respondents.



Riders at the Test of Metal were also asked as to their expenditures on the race weekend, and on a per trip basis, these were consistent with those reported by spectators:

Table 4.4 TOM Participant Expenditure Results

	Total	GVRD	Other BC	Outside BC
Accommodation	\$39.16	\$11.26	\$71.64	\$135.29
Restaurant / Pub	\$59.99	\$42.35	\$64.71	\$160.36
Groceries	\$23.07	\$16.27	\$34.29	\$38.21
Recreation & Entertainment	\$0.00	\$0.00	\$0.00	\$0.00
Bicycles / Parts / Repairs	\$19.37	\$19.75	\$16.00	\$25.36
Shopping	\$21.07	\$9.27	\$41.20	\$45.71
Own Vehicle Expenses	\$22.93	\$19.21	\$31.29	\$25.71
Rental Vehicle	\$0.00	\$0.00	\$0.00	\$0.00
Local Transportation	\$0.40	\$0.45	\$0.43	\$0.00
Other Transportation	\$4.59	\$3.26	\$7.29	\$6.36
Total Expenditure	\$190.58	\$121.83	\$266.84	\$437.00

Many riders also travelled to Squamish in order to train specifically for the Test of Metal, thus their pre-race spending is also included as part of the economic impact of the event. The distance riders needed to travel had a significant impact on the frequency of training, with 92% of GVRD residents making one or more pre-race rides, falling to 30% of riders from the Northwest U.S. that made reported coming to Squamish before the race. Participants were asked about the number of trips that they made, as well as if they were accompanied by any non-TOM riders on their training rides, with the full response details reported in Table 5. Riders were also asked how much their visitor party spent in Squamish on their most recent training ride in Squamish. It was assumed that these expenditures were representative of the typical training rides taken in 2006.



Table 4.5 TOM Pre-Race Training Expenditures

	GVRD	Other BC	Long Haul	Total
Number of Training Rides	3.8	0.7	0.7	2.7
Average Training Ride Party Size	2.2	1.9	1.8	2.1
Accommodation	\$6.09	\$5.71	\$75.00	\$8.79
Restaurant / Pub	\$62.32	\$41.07	\$112.50	\$61.35
Groceries	\$16.72	\$13.57	\$50.00	\$17.61
Recreation & Entertainment	\$0.00	\$0.00	\$0.00	\$0.00
Bicycles / Parts / Repairs*	\$66.65	\$15.36	\$15.00	\$57.40
Shopping	\$2.56	\$10.71	\$37.50	\$5.10
Own Vehicle Expenses	\$34.70	\$28.50	\$18.75	\$33.19
Rental Vehicle	\$0.00	\$0.00	\$0.00	\$0.00
Local Transportation	\$0.00	\$0.00	\$0.00	\$0.00
Other Transportation	\$6.52	\$1.43	\$0.00	\$5.55
Total Expenditure	\$195.55	\$116.36	\$308.75	\$188.99

*The high GVRD expenditures on bicycles is due in part to the apparent purchase of a bicycle in Squamish by one of the respondents. Squamish bicycle stores appear to be popular with GVRD riders, with 1/3 of GVRD respondents having made purchases in Squamish. Of these purchases, 65% were under \$100, 31% were \$100 to \$400, plus the one purchase of the bicycle at over \$2000. These results are consistent with those of the larger Sea to Sky survey



5.0 Economic Impact Results

The expenditures of mountain bikers using the Squamish trail system over the summer of 2006 as well as during the 2006 Test of Metal race resulted in a considerable economic benefit for the Squamish region, with total spending reaching nearly \$2.1 million, of which roughly three quarters was attributable directly to the Squamish trail system, while the training and racing expenditures of out of town Test of Metal participants and spectators generated an additional \$400,000 in spending.

A total of nearly \$1.9 million in economic activity was supported by these expenditures throughout BC, with an additional \$1.3 million paid in wages and salaries supporting nearly 40 jobs. These expenditures also created significant tax revenues, totaling nearly \$950,000, of which \$452,000 accrued to the federal government, nearly \$300,000 for the provincial government, and nearly \$200,000 for municipal governments, of which nearly \$80,000 accrued to the municipality of Squamish.

Table 5.1 Economic Impact Results - Squamish

	Total	Squamish Trails*	Test of Metal
Initial Expenditure	\$2,070,631	\$1,674,046	\$396,585
Total GDP	\$1,869,776	\$1,474,006	\$395,770
Total Wages & Salaries	\$1,271,494	\$1,003,081	\$268,413
Total Jobs	39.5	30.0	9.5
Total Industry Output	\$4,505,422	\$3,590,666	\$914,756
<i>Taxes</i>			
Federal	\$452,297	\$359,468	\$92,829
Provincial	\$298,439	\$212,897	\$85,542
Municipal	\$192,020	\$175,818	\$16,202
Total	\$942,756	\$748,183	\$194,573

*Note that the Squamish trail expenditures exclude race and training expenditures made by TOM participants



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 Association Conference May 2006 and Gravity Logic Bike Park Management Seminar in September 2006.



Appendix 2 – Squamish Stint Schedule

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
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



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.