



Snowmobiling in Golden, BC

Survey & Economic Impact Assessment Results

September 2009

The following provides an estimate of the economic impacts arising from snowmobiling in Golden, British Columbia over the 2008-2009 season.

Executive Summary

From December 2008 to mid-April 2009, a survey of snowmobilers was conducted in and around Golden British Columbia to determine the economic impact of snowmobile visitors for the local economy. The following report details the methodology and results of the study. Highlights from the study include:

- A total of 418 parties were intercepted over the 4 months of the study, with a total of 368 valid surveys collected. Within this group, 76% (281 responses) were from out-of-town while 24% were from Golden (87 responses)
- The largest market for snowmobilers was the city of Calgary, accounting for nearly half of all visitors (44%), followed by residents of central Alberta (Red Deer; 20%). In total, Alberta residents accounted for three-quarters of all snowmobile visitors
- Spending of out-of-town visitors totaled more than \$160 per person per day trip and \$470 per person per overnight trip
- The total spending of snowmobile visitors, along with the spending of the local snowmobile organizations and the frontline snowmobile businesses totaled \$1.5 million in the 2008-2009 season
- This spending generated a net increase in economic activity of \$1.5 million for the Province of British Columbia, of which \$877,000 occurred in Golden
- The total industry output (or gross economic activity) supported by snowmobiling was \$3.3 million, supporting \$1.0 million in wages and salaries throughout the Province
- In the Golden, a total of \$682,000 in wages and salaries and 29 jobs were supported by snowmobiling

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1.0 Introduction

The town of Golden, located in the Kootenay region of the Province of British Columbia, lies between two mountain ranges (the Rockies and the Purcells) at the junction of the Columbia and the Kicking Horse River. The region is one of extraordinary beauty, located near six national parks which offer incredible scenery and outdoor recreation opportunities.

In the summer time, visitors and residents alike participate in golfing, white water rafting, mountain biking, hiking, and fishing, as well as motorized sports such as ATV riding. The number of activities available in the winter time is equally impressive, featuring cross-country and downhill skiing, heli-skiing (the nearby Bugaboos Provincial Park is home to the first commercial heli-ski operation), snowshoeing, ice fishing, ice climbing, and snowmobiling.

For snowmobilers, the region features a number of riding areas such as Quartz Creek, Gorman, Silent Pass, Hope Creek, Chatter Creek, the Blaeberry river trail, the West Bench trail, and many others. In addition to the wide variety of places to ride and the abundant annual snowfall, Golden is very fortunate to have an active snowmobile community, being home to the Golden Snowmobile Trail Society (GSTS) and the Golden Snowmobile Club (GSC) whose members spend hours grooming trails, maintaining bridges and cleaning cabins as well as organizing many popular events.

Snowmobiling provides a considerable benefit to the community of Golden. For local residents, the trails provide a venue to participate in an active lifestyle and make the community a more attractive place to live. Moreover, the town attracts hundreds of sledders each year to explore the regions trails and experience the community's hospitality.

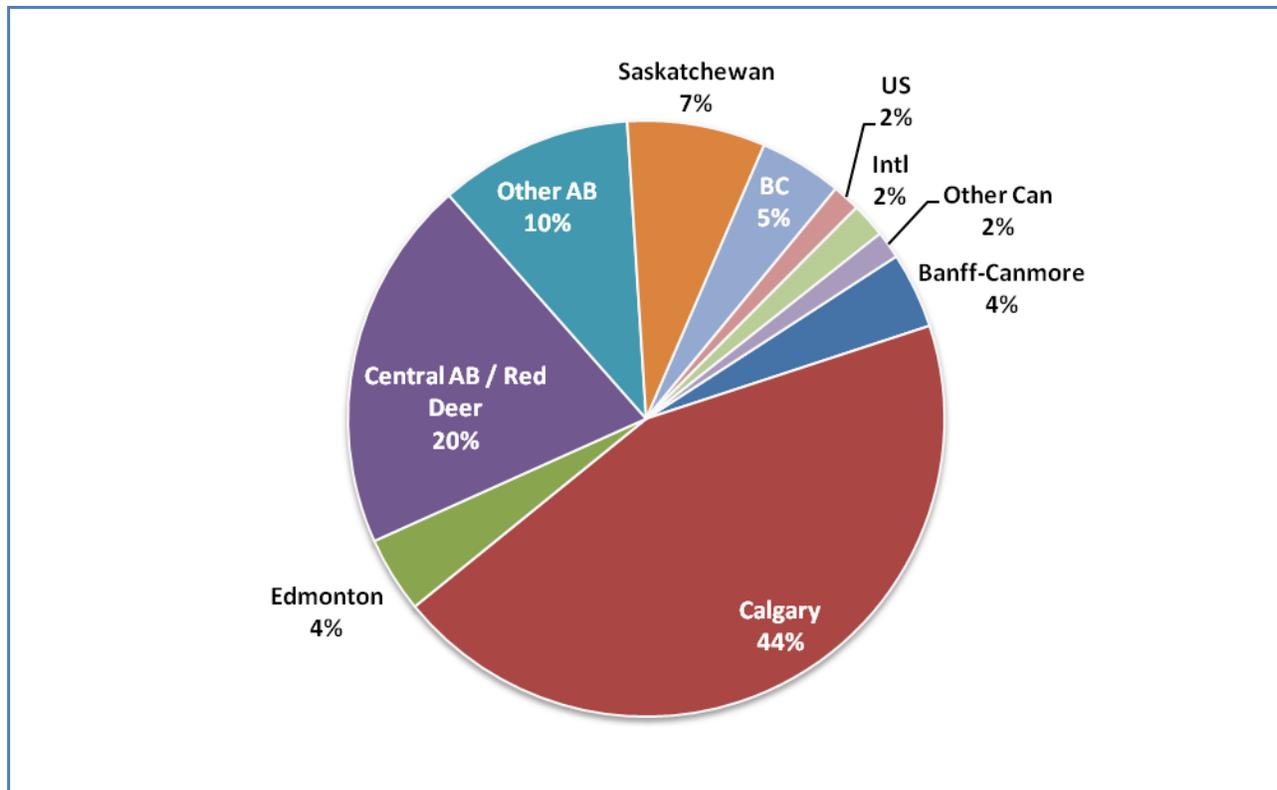
In order to quantify the importance of snowmobiling to the local community, Tourism Golden commissioned the Paradigm Consulting Group to conduct an economic impact assessment of the sport of snowmobiling for the 2008-2009 season. The objective of the study was to determine the total number of out trips made by snowmobilers to Golden and to quantify the amount that they spent in the community over the course of their visit. To achieve this, snowmobilers were given a face-to-face intercept survey asking questions regarding their origin, the frequency of riding in Golden, their length of stay in the town, as well as their total expenditures while in Golden.

The methodology used to collect expenditure data from respondents, as well as a description of how visitor volumes were determined and the results of the survey are contained in the next section. The section also provides a brief description of some of the operational expenditures made by organizations such as the Golden Snowmobile Club, the Golden Snowmobile Trail Society as well as some of the local businesses in the region. Subsequently, Section 3 provides the economic impact results, while section 4 concludes the document. A more detailed description of the REAM economic impact model and a glossary of the terms used found in appendices 1 and 2, and a copy of the survey is found in Appendix 3.

2.0 Methodology

The snowmobiling survey started in late December of 2008, with surveys continuing through until mid-April. Most surveys were administered at the Gorman (36%) and Quartz (35%) trail heads and were conducted by members of the Golden Snowmobile Club. The survey was a computer assisted personal interview (CAPI) survey conducted using PDAs loaded with Techneos Entryware® survey software¹. The questionnaire lasted 1-2 minutes for local residents and took 5-7 minutes for visitors to the region. A copy of the survey instrument can be found in Appendix 3.

A total of 418 intercepts were made, with 9 people refusing to participate (a rejection rate of 2%). Of those intercepted, 51 sledders had been previously surveyed (12%), leaving a total of 368 valid surveys. Within this group, 76% (281 responses) were from out-of-town while 24% were from Golden (87 responses)². Out of town visitors were asked for their postal codes; and with this information, visitor origins were determined. The largest market for snowmobilers was the city of Calgary, accounting for nearly half of all visitors (44%), followed by residents of central Alberta (Red Deer; 20%). In total, Alberta residents accounted for three-quarters of all snowmobile visitors.



¹ For more information, please see www.techneos.com

² Note that many of those who had been previously surveyed were likely from Golden as well. Moreover, as the local residents ride more frequently in the region, they are more likely to be intercepted, thus explaining the difference in the share of visitors in the sample (74%) and the actual share of out of town visitors reported in Table 2.1 (85%).

2.1 Number of Visits

A key component to the study is determining the overall volume of snowmobile riders in Golden, both local and non-local. As the sample collected provided no information as to the overall volume of riders, the study makes use of the number of permits sold by both the Golden Snowmobile Trail Society (GSTS) and the Golden Snowmobile Club (GSC). The riders fall into three categories: non-local members, Golden Snowmobile Club Members and riders with day permits. Non-local member riders are snowmobilers who made use of the trails in Golden but were members of other snowmobile associations. Naturally, Golden Snowmobile Club members were members in 2008/2009. Members do not necessarily live in Golden. Finally, day permit riders could live either in Golden or out of town. Over the 2008/2009 season, a total of 6,513 day passes were sold, along with 1,496 Golden Snowmobile Club entries and 297 non-member entries at the three principal riding areas of Quartz Creek, Gorman Lake, and Silent Pass.

Non-Local Members

It was assumed that all non-member entries were made by out of town visitors. The average non-local member reported visiting Golden a total of 3.7 times over the course of the season, suggesting that there were 79 riders in this category. The survey results found that 26% of the 297 trips were day trips, for a total of 127 day trips. Non-local member riders reported spending an average of 2.6 days snowmobiling for every overnight trip they made, implying that there were a total of 66 overnight person trips made.

Golden Snowmobile Club Members

The ticket sales data collected by the Golden Snowmobile Club (GSC) found that of the 239 seasons passes sold, 88 (37%) were sold to non-residents. Applying this proportion to the total number of GSC member entries at the three trail heads (1,496) gives 551 trail days accounted for by non-residents. The survey found that 42% of trips taken by GSC non-residents were day trips, and overnight trips featured an average of 2.3 days of riding per person. These results suggest that non-resident GSC members made 229 day trips and 137 overnight person trips made.

Day Permits

A similar methodology was used to calculate the number of trips generated by day permit sales. Again, the survey suggested that 95% of all day permits sold were sold to out of town visitors. With 6,513 total day permits sold, this suggests that 6,242 were sold to non-residents. 22% of riders using day permits were on day trips (1,361 total trips), while the average night trip featured 2.5 days of riding, for a total of 1,985 overnight person trips.

The calculations described above are summarized in Table 2.1.

Table 2.1 Aggregate visitor calculations

Pass Type	GSC non-local Members	Non-local members	Day Permits	Total
Total	1,496	297	6,513	8,306
Visitor Share	37%	100%	95%	85%
Visitor Trail Days	551	297	6,243	7,090
Share Day Trips	42%	26%	22%	n/a
Trail Days per Overnight Trip	2.34	2.63	2.46	n/a
Number of Day Trips	229	79	1,361	1,669
Number of Overnight Trail Days	321	218	4,882	5,422
Number of Overnight Trips	137	83	1,985	2,205

In total, visitors made 1,669 day trips and 2,205 overnight person trips to Golden in 2008/ 2009. Note that these results reflect the total number of person trips taken, not the total number of parties. Also, most out of town visitors made more than one trip to Golden, so the figures above are not the number of unique individuals who travelled to Golden for snowmobiling.

2.2 Number of Visitors

Both local and visiting riders were asked how often they expected to make use of the trails in Golden over the course of the 2008/2009 season, with this information being used to determine the overall number of unique visitors. Comparing these results to the actual trail figures as revealed by the permits gate counts suggest that riders significantly over reported the number of times they would be riding. As an example, multiplying the surveyed average number of rides reported for the year by pass holders with the number of passes sold and comparing the results to the trail counts suggest that respondents over reported the number of rides made by more than three times, as illustrated in Table 2.2. This factor has been applied to all of the questions where riders were asked to project the total number of days they would be snowmobiling for the season as a whole.

Table 2.2 Bias adjustment calculation

	Golden Snowmobile Memberships Sold	Reported average number of trail days	Calculated total	Actual total number of trail days	Implied Bias
Local	151	25.4	3,835		
Visitors	88	17.8	1,563		
Total	239		5,398	1,496	3.6

Making use of the bias adjustment and the total number of visitor trail days reported in line 3 of Table 2.1 suggests that there were a total of 1,679 unique visitors to Golden in 2008 (Table 2.3). While the bias calculated was applied to all visitors, there may be differences in the amount of bias for different visitor categories (i.e. the bias for annual members may be different from those who purchase day permits), this assumption in no way affects the overall economic impact results (which is based on trips), but may lead to higher margins of error in the number of unique visitors reported in Table 2.3.

Table 2.3 Number of unique visitors

	Members	NLM	Day Pass	Total
Visitor Trail Days	551	297	6,243	7,090
Unadjusted Number of Trip Nights	22.52	11.18	15.07	15.03
Bias Adjusted	6.36	3.10	4.17	4.16
Total Unique Visitors	88	96	1,495	1,679

2.3 Visitor Expenditures

All visitors were asked how much they spent in Golden over the course of their trip. The tables below show the results on both for visitor parties as a whole, as well as spending per person for the entire trip.

Table 2.4 Spending per party

	Day Trip	Overnight Trip	Average
Party Size	3.0	3.6	3.4
Accommodation	\$0.00	\$376.06	\$293.25
Restaurant	\$80.16	\$333.95	\$278.06
Other F&B	\$41.62	\$108.17	\$93.52
Recreation & Entertainment	\$12.61	\$51.67	\$43.07
Permits	\$45.34	\$113.22	\$98.27
Snowmobile	\$110.74	\$253.35	\$221.95
Other Shop	\$25.57	\$35.88	\$33.61
Fuel	\$165.30	\$403.69	\$351.19
Transport	\$1.97	\$2.92	\$2.71
Total	\$483.31	\$1,678.91	\$1,415.62

Table 2.5 Spending per person

	Day Trip	Overnight Trip	Average
Accommodation	\$0.00	\$105.90	\$85.50
Restaurant	\$26.72	\$94.05	\$81.08
Other F&B	\$13.87	\$30.46	\$27.27
Recreation & Entertainment	\$4.20	\$14.55	\$12.56
Permits	\$15.11	\$31.88	\$28.65
Snowmobile	\$36.91	\$71.35	\$64.71
Other Shop	\$8.52	\$10.10	\$9.80
Fuel	\$55.10	\$113.69	\$102.40
Transport	\$0.66	\$0.82	\$0.79
Total	\$161.10	\$472.81	\$412.76

Combining the visitor spending per person per trip with the total trip number of trips calculated in Table 2.1 shows that visitors who came to Golden for snowmobiling spent in excess of \$1.4 million over the 2008-2009 season.

Table 2.6 Total visitor spending

	Day Trip	Overnight Trip	Total
Total Trips (Table 2.1)	1,669	2,205	3,874
Extra trips	1,836	2,425	4,261
Accommodation	\$0	\$256,865	\$256,865
Restaurant	\$49,051	\$228,102	\$277,153
Other F&B	\$25,468	\$73,886	\$99,354
Recreation & Entertainment	\$7,714	\$35,294	\$43,007
Permits	\$27,745	\$77,333	\$105,078
Snowmobile	\$67,758	\$173,050	\$240,809
Other Shop	\$15,648	\$24,507	\$40,155
Fuel	\$101,141	\$275,738	\$376,879
Transport	\$1,204	\$1,992	\$3,196
Total	\$295,729	\$1,146,767	\$1,442,496

2.4 Other spending

In addition to the visitor spending, there was considerable spending in Golden made by organizations and business in support of the sport, for example spending made by the GSTS and GSC, and marketing expenditures made by snowmobile related businesses. The results shown in Table 3.1 reflect the combined expenditures reported by the two clubs and the results of an informal survey of the snowmobile related businesses (i.e. those that are directly involved in the sport such as rental shops).

Table 2.7 Operational Expenditures*

Marketing / Advertising	\$70,040
Misc Goods	\$11,974
Misc Services	\$6,624
Wages	\$65,418
Merchandise & Retail	\$45,558
Total	\$199,613
Direct employment	15

*Note – these figures do not include the spending and employment figures of MotorTech

3.0 Results

The combined spending arising from nearly 1,700 day trips and 2,200 overnight trips by visitors to Golden for the purposes of snowmobiling, plus the expenditures made in the community in support of the sport, totaled more than \$1.5 million for the 2008-2009 season. This expenditure generated an estimated \$3.3 million in economic activity for the Province of British Columbia, of which \$2.2 million occurred in the town of Golden. These expenditures supported \$1.0 million in wages and salaries in the Province through the support of 36.5 jobs, of which an estimated 29.4 were in the Golden³. The total net economic activity (GDP) generated by the sport of snowmobiling in 2008-2009 was \$1.5 million through the Province, with \$877,000 occurring in the Golden.

Considerable tax revenues were also supported by the sport, totaling \$700,000. Broken down by level of government, federal revenues totaled \$330,000, with an additional \$260,000 in taxes accruing to the Province of British Columbia. Moreover, \$111,000 in taxes was supported in municipalities across the province, of which \$83,000 accrued in Golden.

³ Jobs reported in this study refer to the number of jobs, vs. full time equivalent (FTE: two people working half time would represent two jobs or one FTE).

Table 3.1 REAM Economic Impact Results

Initial Expenditure	\$1,537,417	\$1,537,417	\$0
Gross Domestic Product			
Direct Impact	\$522,835	\$522,835	\$0
Indirect Impact	\$579,428	\$174,090	\$405,337
Induced Impact	\$431,924	\$180,466	\$251,458
Total Impact	\$1,534,187	\$877,391	\$656,796
Industry Output			
Direct & Indirect	\$2,397,454	\$1,785,405	\$612,049
Induced Impact	\$868,303	\$362,731	\$505,572
Total Impact	\$3,265,757	\$2,148,136	\$1,117,621
Wages & Salaries			
Direct Impact	\$413,648	\$413,648	\$0
Indirect Impact	\$358,638	\$155,524	\$203,114
Induced Impact	\$269,234	\$113,742	\$155,492
Total Impact	\$1,041,521	\$682,915	\$358,606
Employment (Full-year jobs)			
Direct Impact ⁴	21.4	21.4	-
Indirect Impact	8.0	3.7	4.3
Induced Impact	7.0	4.3	2.7
Total Impact	36.5	29.4	7.1
Taxes (Total)			
Federal	\$329,183	\$216,759	\$112,424
Provincial	\$260,616	\$183,844	\$76,772
Municipal	\$110,679	\$83,358	\$27,320
Total	\$700,478	\$483,961	\$216,517

⁴ Direct employment impact is generally extra shifts or overtime for existing workers rather than new employment.

4.0 Conclusion

Snowmobiling is an important winter activity for the town of Golden, as it attracts hundreds of visitors who spend a considerable amount of money in the region. With the abundance of trails and regions, the sport has considerable growth potential, particularly as access to Golden is improved through highway expansion projects.

With spending of more than \$160 per person per day trip and \$470 per person per overnight trip, the total spending of snowmobile visitors, along with the spending of the local snowmobile organizations and the frontline snowmobile businesses totaled \$1.5 million in the 2008-2009 season. This spending generated a net increase in economic activity of \$1.5 million for the Province of British Columbia, of which \$877,000 occurred in Golden. The total industry output (or gross economic activity) supported by snowmobiling was \$3.3 million, supporting \$1.0 million in wages and salaries throughout the Province. In the Golden, a total of \$682,000 in wages and salaries and 29 jobs were supported by snowmobiling.

Appendix 1: Economic Impact Methodology –Regional Economic Assessment Model (REAM)

Background

Briefly, the purpose of REAM 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. REAM measures the direct, indirect & induced effects for each of these elements.

Technical Description of the Impact Methodology used by REAM

REAM 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 considerations. However, as these concepts fall outside of the System of National Account Provincial input/output tables, their impacts must be calculated separately. Current tax and employment data for each region is used to econometrically estimate a series of coefficients and rates. These coefficients and/or rates are then applied to measures determined within the input-output framework of the model, yielding the final tax and employment figures.

Regional (Sub-Provincial) Impact Methodology

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

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

Appendix 2: Glossary of Terms used by REAM

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

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

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

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

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

NOTE: The multiplier (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) is less by the amount of indirect taxes plus subsidies.

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

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

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

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

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

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

Appendix 3: Golden Snowmobile Survey