

**New Brunswick Economic Impacts
Of All-Terrain Vehicles in 2017**

For

New Brunswick All Terrain Vehicle Federation Inc.

Attention
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Executive Summary

This report is based on extrapolated results from 2038 responses to an electronic survey of New Brunswick ATVers. Respondents owned 6.5% of the 50,682 All-Terrain Vehicles in New Brunswick or more specifically 7.5% of all side-by-sides (SBS) and 6.2 per cent of each of the other two types: four-wheeled ATVs other than SBS (ATVs) and three-wheeled ATVs and Argos (other ATVs). References to ATVing include all the above types of vehicles.

This study establishes the economic impacts of New Brunswick ATVing by first delineating investments and operating expenditures in the sport. 2017 New Brunswick, capital purchases amounted to \$181.8 million comprised of new All-Terrain Vehicles (\$97.3 million), other new transportation equipment (\$82.7 million) and infrastructure, mainly trails, (\$1.8 million.)

Capital investments were supplemented by \$176.7 million in operating expenditures related to ATVing and travelling to ATVing events. Of these expenditures \$76.1 million qualified as tourism expenditures, in that parties travelled further than 50 km from their residences to the event. The composition of by all and tourist ATVing expenditures is depicted in Chart E-1.

Chart E-1: Summary of All-Terrain Vehicle and Tourism Expenditures Shares: 2017

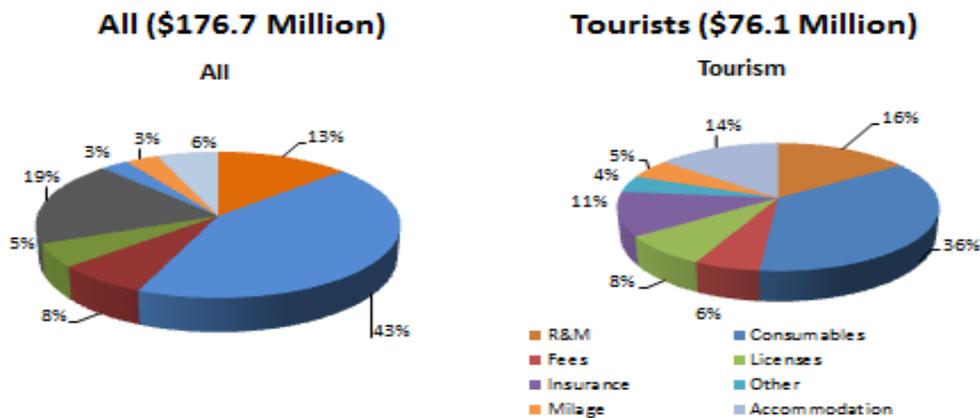
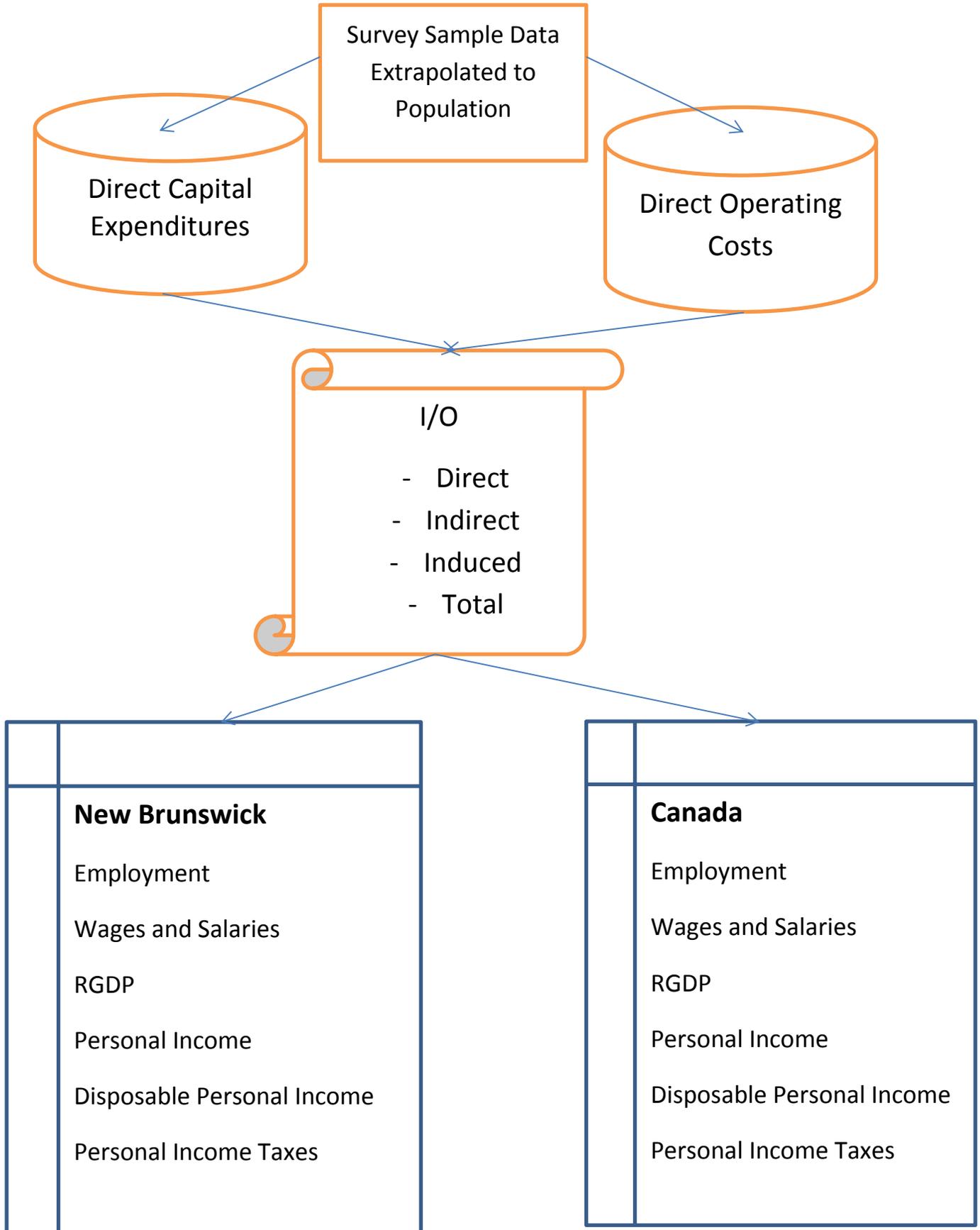


Chart E-2: Information Flows



Smith Gunther has followed Chart E-2 on Information Flows to determine the full economic impacts of the combined direct capital investments and operating expenditures in New Brunswick. Smith Gunther first extrapolated sample data from the survey to known populations in order to estimate direct expenditures. Secondly, it and then ran those estimates through Statistics Canada's Input Output multipliers to determine direct indirect and induced economic impacts on New Brunswick and Canada. These findings established total economic impacts of New Brunswick ATVing in each jurisdiction as follows:

- Real Gross Domestic Product (GDP) at basic prices in New Brunswick of \$272.5.0 million and \$361.7 million in Canada inclusive of New Brunswick;
- Labour Income of \$165.0 million in New Brunswick and \$215.2 million in Canada;
- New Brunswick incremental Labour income from ATVing was comprised mainly of wages and salaries (\$141.9 million) supplemented by Employers Social Contributions (\$16.8 million) and Labour Income of unincorporated businesses (\$5.3 million).
- New Brunswick ATVing generated 4,722 jobs in the province and 5,663 in Canada;
- Given that many of the direct jobs were part time the average income from the direct jobs was below provincials norms albeit above the poverty level at \$32,862;
- Due to greater shares of full time employment and higher levels of remuneration in industries supplying those benefiting from ATVing direct expenditures, indirect and induced increased the average level of incomes benefiting from ATVing to \$34,800 for direct and indirect impacts and \$34,900 for direct, indirect and induced in New Brunswick and \$38,000 in total for Canada.
- Wages and salaries in New Brunswick increased by \$24.6 million for direct employees, \$32.0 million for those directed and indirectly employed and \$36.0 million for all impacted employees; i.e. \$4.0 million earned from induced expenditures.
- Another \$9.5millionwas earned elsewhere in Canada.
- Net revenues accruing to all governments generated from ATVing in New Brunswick were \$15.4 million from activities occurring in the province and a further \$4.0 million in the rest of the country.

Parallel results for the tourism expenditures component are as follows:

- GDP at basic prices in New Brunswick of 62.7 million and \$80.2 million in Canada inclusive of New Brunswick;
- New Brunswick incremental Labour income from ATVing was comprised mainly of wages and salaries (\$30.3 million) supplemented by Employers Social Contributions (\$3.8 million) and Labour Income of unincorporated businesses (\$1.9 million).
- Generated 1,198 jobs in the province and 1,385 in Canada;

- Given that many of the direct jobs were part time the average income from the direct jobs was below provincials norms albeit above the poverty level at \$26,703;
- Due to greater shares of full time employment and higher levels of remuneration in industries supplying those benefiting from ATVing direct expenditures, indirect and induced increased the average level of incomes benefiting from ATVing to \$29,400 for direct and indirect impacts and \$30,000 for direct, indirect and induced in New Brunswick and \$32,800 in Canada.
- Wages and salaries in New Brunswick increased by \$24.6 million for direct employees, \$32.0 million for those directed and indirectly employed and \$36.0 million for all impacted employees; i.e. \$4.0 million earned from induced expenditures.
- Another \$9.5 million was earned elsewhere in Canada.
- Net revenues accruing to all governments generated in New Brunswick were \$3.3 million from activities occurring in the province and a further \$0.9 million in the rest of the country.

In order to be conservative in estimating tourism impacts no capital impacts have been included in tourism. That may be an overly harsh treatment of those expenditures on both all ATVing and trails, especially where the trails are designed to create loops for multi-day excursions. Smith Gunther has also taken the travel distance to be from residence to trailhead. This too is conservative especially for multi-day excursions which take tourists deep into the woods in essence further away from home than the trailhead. For those reasons the estimates of tourism activities are modest albeit they are an important step in delineating ATVing tourism.

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New Brunswick Economic Impacts of All-Terrain Vehicles in 2017

Introduction and Background

Under contract to the New Brunswick All Terrain Vehicle Federation Inc. (NBATVF) Smith Gunther Associates Ltd. has produced *ATVing in New Brunswick in 2017*. Smith Gunther collected data from licencing supplemented by an electronic survey of New Brunswick trail users. The bilingual electronic survey was undertaken with the capable assistance of Benoit Gauthier of CIRCUM during April of 2018 in order to capture ATVing activities undertaken in 2017 and earlier. Because of the timing of the survey prior to snow clearance on many trails and because electronic notice of the survey was distributed only to NBATVF members, New Brunswick residents comprised the vast majority (99 %) of the respondents.

Of the 2,038 respondents to the survey, 2022 resided on the province. Their responses were supplemented by four participants from each of Prince Edward Island and Quebec, two from Ontario and Manitoba and one each from each of Nova Scotia and New England.

Table 2 illustrates that respondents indicated that use of their ATVing was sustained throughout the year with a slight drop-off in the spring followed by a summer pick-up.

Table 1: 2017 Usage of All-Terrain Vehicles by Season

ATV Type	Spring	Summer	Fall	Winter
SBS	15	25	23	17
ATVs	14	24	21	17
Other ATVs	44	49	45	50
% Of usage	21%	28%	26%	25%

Within the samples responses of 2038, respondents indicated their reasons for ATVing with the largest number enjoying the great outdoors (1,985), followed by exploring (1,677), camaraderie (1,387), hunting (899), and fishing (834).

This study extrapolates the survey results to the entire usage of All-Terrain Vehicles in New Brunswick. In 2017 New Brunswick owned 50,682 All-Terrain Vehicles and travelled on them for 307 million km with 28% of that being on side-by-sides (SBS)¹, 64% on ATVs and 8% on other ATVs.

¹ Where either permits indicated that the machine was a side-by-side or the engine size precluded it being anything but a side-by-side it is registered as a side-by-side otherwise four-wheeled machines are registered as ATVs and three-wheeled vehicles and Argos as Other ATVs.

All-Terrain Vehicle owners fall into two groups those who are licensed and owned by trail permit holders (licensed) and those who are not. Permit holders are members of the NBATVF while others are generally not. Limiting the study to only operators of licensed All-Terrain Vehicles would considerably understate the full impact of ATVing in New Brunswick. Operators who ride only on their own land do not require licenses and still others may simply not buy a licence. By the end of 2017, Public Safety New Brunswick data indicate there were 50,682 All-Terrain Vehicles in New Brunswick. Of which 21,808 held trail permits. Of these with permits at least 26.4% were SBS. Using the sample from its survey of riders in New Brunswick Smith Gunther estimates the number of permitted ATVs to be 14,747 and the number of licensed other ATVs usually with three wheels but inclusive of Argos to be 1,304. In most cases there may be two or more people utilizing a single machine; husband / wife, qualified children, boyfriend / girlfriend – more than double the number of people enjoying ATVing relative to respondents (multiple of 2.7). The average number of All-Terrain Vehicles per participating family is 1.64.

In order to scope direct expenditures devoted to ATVing in New Brunswick the NBATVF retained Smith Gunther to design, undertake and report on an electronic survey, primarily of its members albeit open to all trail users. Vetting early drafts of the survey with the leadership of the NBATVF assisted Smith Gunther's clarity in the survey. The 2038 responses testify to the Federation's success in encouraging member participation. This chapter reports on the survey findings. In doing so it documents survey results prior to extrapolating to all ATVs in the province in the next Chapter. Both versions of the bilingual survey are available to readers in the appendix A.

Sample Size

There were 2,038 respondents to the survey who owned and operated 15% of licenced NB All-Terrain Vehicles and 6.5% of the 50,682 All-Terrain Vehicles in the province. Responses were fairly even distributed among the types of All-Terrain Vehicles covered by the survey namely:

- Side-by-Sides (SBS) where a driver and a passenger sit side-by-side;
- Four-wheeled ATVs where passenger(s) are seated behind the drive; and,
- Other ATVs comprised of generally older three wheeled vehicles and Argos.

Table 2 documents the share of each type of permitted All-Terrain Vehicles covered by the sample with a 17.7% response rate among members for SBS and 14.3% for each of other two older classifications. The total number of respondents is less than the sum of its row elements because several respondents own more than one type of All-Terrain Vehicle. For the same reasons the ratio of total of All-Terrain Vehicles per family is larger than any of the elements in its row.

Table 2: Sample Shares by Type of All-Terrain Vehicle

Metric\Type of All-Terrain Vehicle	SBS	ATV	Other ATV	Total
Sample Results				
-Number owned	1,005	2,115	187	3,307
-Number of respondents owning at least one type	904	1,446	118	2019
-Average number per family of owners	1.11	1.46	1.58	1.64
Population Licensees				
-Total owned and licenced to trail permit holders	5,668	14,829	1,311	21,808
-Share of licensees in sample	17.7%	14.3%	14.3%	15.2%
-Registered All-Terrain Vehicles in the province	13,380	34,272	3,030	50,682
-Share of all All-Terrain Vehicles in the sample	7.5%	6.2%	6.2%	6.5%

One of the objectives of this research has been to determine the share of ATVing that meets international criteria to be classified as tourism. The international criterion used in this report is that the tourist ventures 50 km or more from his or her residence. In order to differentiate between tourist and non-tourist expenditures, the survey asked respondents to indicate one-way distances:

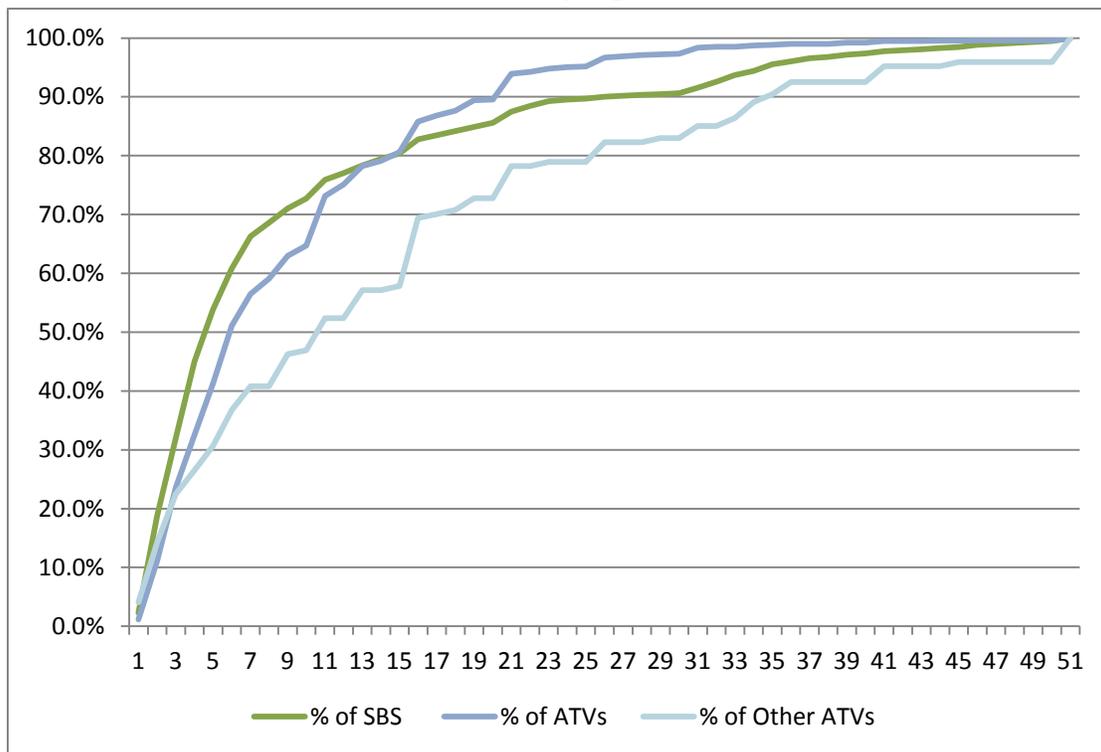
1. Average distances travelled from residence to each event attended within 50 km of your residence; and,
2. Average distances travelled from residence to each event attended 50 km or more away from your residence.

Of the 997 respondents that initially indicated that they attended events within 50 km of their home 123 indicated average distances travelled to ATVing events exceeded those limits, leaving 874 that met the criterion. Another 276 responded to both questions suggesting that some of their events met both criteria while other did not give average distances. That left 456 respondents on which to base projections. The average one-way distance travelled by these respondents was 21.3 km. Similarly, of the 786 who indicated that they travelled in excess of 50 km from their residence to All-Terrain Vehicle events, 316 gave distances and were independent of those travelling less than 50 km. They travelled an average of 358.6 km. one-way to events. This subsample has been used to allocate expenditures between tourist and non-tourist ATVing activities.

This report examines ATVing capital and operating direct expenditures prior to applying multipliers to these expenditures in order to estimate indirect and induced expenditures and total employment induced by ATVing in New Brunswick. Both direct and total expenditures are broken down into tourist and non-tourist expenditures.

As Chart 1 illustrates 80% of SBS, ATVs, and other ATVs have been purchased in the last 14 years. Among the these types, SBS are younger in that on average they have been purchased more recently than ATVs and the other ATVs, indicative of the transition of All-Terrain Vehicles to the higher end of the market. Both of the SBS and ATVs are generally younger than the other ATVs which, but for the last three years relative to ATVs, have taken the brunt of the market adjustment to SBSs.

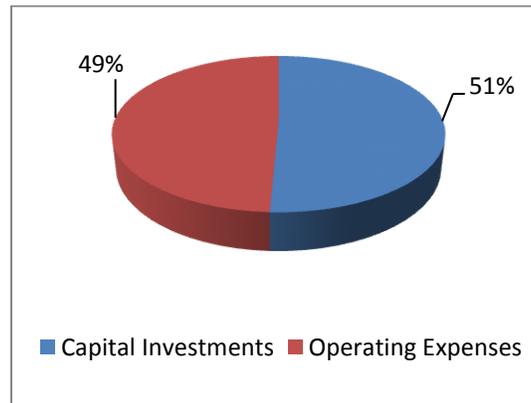
**Chart 1: Fleet Age by Type of All-Terrain Vehicles in New Brunswick 2017
(Cumulate % by Age in Years)**



Chapter 1: Capital Expenditures

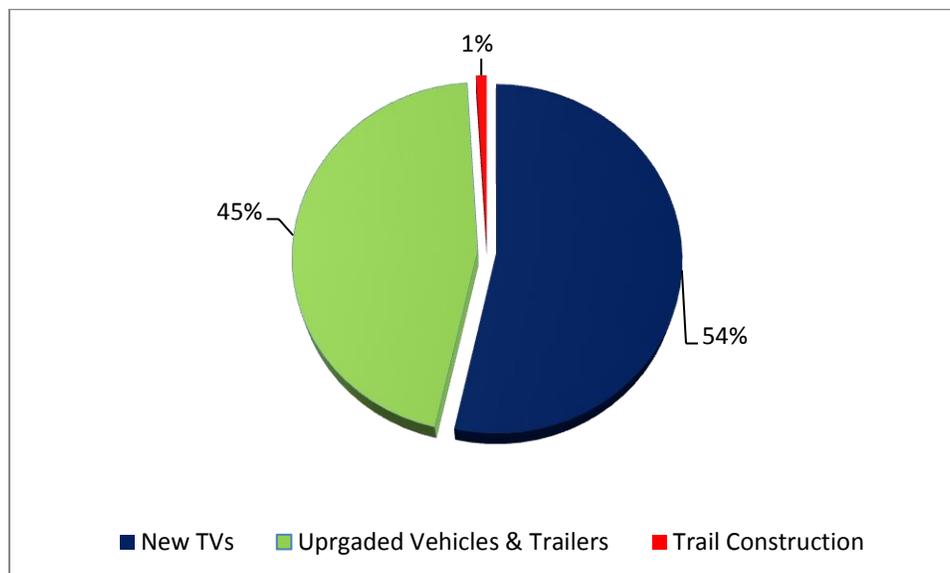
Noted in Chart 2, of the \$348 million in ATVing spending the majority was for capital investments (52%) with the remaining covering operating and event related expenditures.

**Chart 1: Shares of New Brunswick All-Terrain Vehicle Spending 2017
(% of \$358.5 million)**



Direct capital expenditures include those on new All-Terrain Vehicles, additional expenditures to enhance transportation equipment for hauling All-Terrain Vehicles over and above what the family would otherwise purchase and trail construction by clubs and the NBATVF. Chart 3 depicts the percentage shares of capital expenditures. In addition to purchases of new All-Terrain Vehicles, those of incremental transportation equipment were significant (45%)

**Chart 2: Shares of New Brunswick All-Terrain Vehicle Capital Spending 2017
(% of 181.8 Million)**



Purchases on New All-Terrain Vehicles

Reflective of the current fleet of All-Terrain Vehicles over the years, 68.1% of New Brunswick All-Terrain Vehicle purchasers have bought new All-Terrain Vehicles while 31.4% purchased used ones and 0.5% either did not know or had purchased both new and used. Of those purchased in New Brunswick by their current owners 69.1% have been purchased new and 30.7% used with 0.2% of respondents who did not know whether their purchases had been new or used. See Table 3.

Table 3: Percentage of Purchasers and Purchases of New and Used All-Terrain Vehicles in New Brunswick

	Purchasers	Side-by-Sides	ATVs	Other ATVs	Documented
n	2038	588	1242	35	1865
New	68.1%	75.7%	66.4%	51.4%	69.1%
Used	31.5%	24.3%	33.3%	45.7%	30.7%
Don't know	0.5%	0.0%	0.2%	2.9%	0.2%

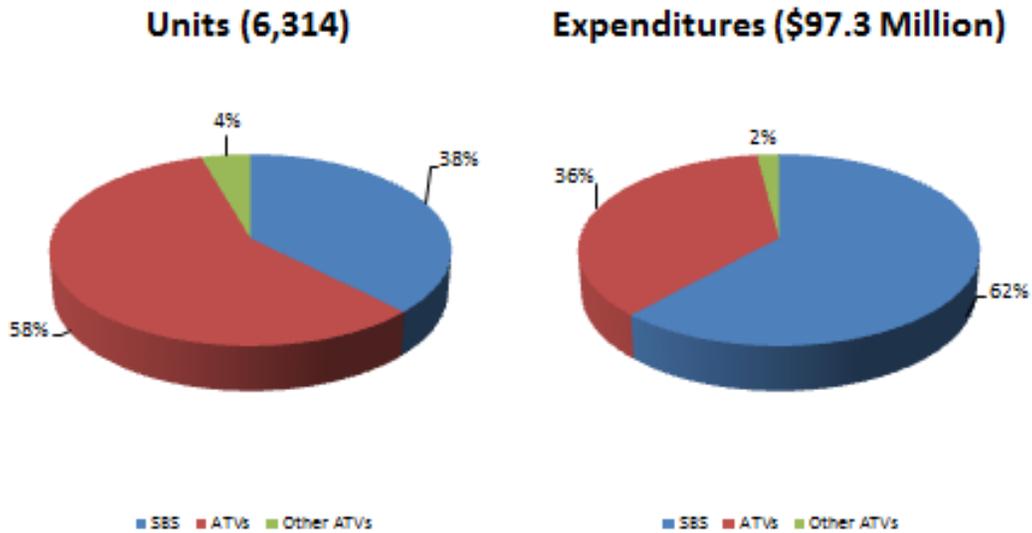
Table 4 illustrates New Brunswick sales of new All-Terrain Vehicles for a typical year by type. These new purchases amount to \$97.3 million annually. While Smith Gunther has extrapolated the number of units from the survey responses, average pricing data are scarcer and are based on the lower ranges of values posted by manufacturers on their websites and are likely downward biased in order to avoid exaggerating. The highest value of sales is in the expanding markets for SBSs. For both SBS and other quads the sample sizes are large enough to be confident about the number of units sold. While the sample size (n) is small for other ATVs, it is also the least important market segment so the totals remain solid estimates.

Table 4: Typical Capital Expenditures on New All-Terrain Vehicles (\$1,000s)

	n	Units Purchased	Expenditures (\$1,000s)
SBS	893	2,862	60,110
ATVs	1375	3,208	35,293
Other ATVs	106	243	1,944
Total		6,314	97,348

Due to pricing differentials the shares of purchases among units is different for the share of expenditures on units or in dollars spent as noted in Chart 3

Chart 3: Shares of New Brunswick All-Terrain Vehicle Capital Spending 2017



Additional Investment in Transportation Equipment

Transporting All-Terrain Vehicles to trailheads and events requires trailers, hitches and larger vehicles for towing than a family might otherwise purchase. Respondents were asked to indicate such incremental expenditures made in 2017. Smith Gunther extrapolated these expenditures for all types of All-Terrain Vehicles and then allocated them among the three types of All-Terrain Vehicles in line with new purchases of each type as noted in Table 5.

Table 5: Typical Annual Capital Expenditures on Additional Transportation Equipment All-Terrain Vehicles (\$1,000s)

Owners of:	n	Purchasers	Expenditures
SBS		4,822	45,480
ATVs		7,295	36,040
Other ATVs		327	1,176
Total	768	12,445	82,696

Trails and other Infrastructure

With increasing permits to utilize crown land and to build road crossings, often inclusive of signage, 2017 trail construction is estimated at \$900,000. These costs are net of any land costs which in economic terms are transfers between parties in which no new land *per se* is produced. It is only the improvements to make the land safe for passage that constitute construction that adds to the economy. The estimate is based on Quebec's average costs per km. Clearly, such an estimate is only a proxy because costs based on distances can vary greatly depending on the share of the distance involving bridges, trail specifications, and variations in expected usage.

Total Capital Expenditures

Table 6 summarizes ATVing 2017 capital expenditures in New Brunswick.

Table 6: New Brunswick 2017 Capital Expenditures Related to ATVing (\$1,000s)

Activity	Expenditures
New all-terrain vehicles	97,348
Other transportation equipment	82,696
Trails	1,800
Total	181,843

Expenditures on new All-Terrain Vehicles and other transportation equipment are based on the survey results extrapolated to the population. Capital expenditures are part of personal activities and not specifically related to tourism, so none of the capital expenditures are included as part of tourism expenditures. The trail construction estimate is based on Grants mostly for infrastructure improvements from the NBATVF to the clubs which in general match those funds. While trails are the main capital expenditures investment allowances can also be made for clubhouses and other club investments. To put this capitalization into perspective, \$182 million in capital investments exceeds Halifax's investment of \$57.6 million² in its award winning Central Library by more than three times.

² <http://halifaxcentrallibrary.ca/funding/>

Chapter 2: Operating Expenditures

Operating expenditures cover the day-to-day use of All-Terrain Vehicles including repair and maintenance, gasoline, additional clothing, fees, and insurance related to ownership and riding. These expenditures are further supplemented by consumption while participating in events such as competitions and jamborees: - fees, transportation, parking, specific event activities, and meals. In addition, participants volunteer time to assist their peers in repairing All-Terrain Vehicles and in other activities such as pot-luck dinners.

Material Goods, Fees, Licenses and Insurance

The questionnaire asked respondents to indicate whether they had spent money the above goods and services in 2017 and if so how much on the items appearing in Table 7.

Table 7: All-Terrain Vehicle Expenditures on Material Goods, Fees, Licenses and Insurance in 2017 (\$1,000s)

Expenditure	N*	Expenditures			
		SBS	ATVs	Other ATVs	Total
Repair & maintenance	766	9,050	13,526	858	23,434
Gasoline	744	8,394	17,588	1,158	27,140
ATVing clothing	782	8,518	18,313	1,083	27,914
Food and beverage	727	6,828	13,630	726	21,184
Event fees	619	1,663	2,476	178	4,317
Club fees	693	1,265	3,541	157	4,963
Trail Fees	503	1,257	2,235	113	3,605
Licence and upgraded transportation	689	2,443	6,730	162	9,335
Casualty insurance	540	4,483	9,774	415	14,672
Liability insurance	542	6,001	12,114	458	18,572
Other	288	1,535	3,337	43	4,915
Sum		51,436	103,264	5,352	160,051

Note: Ns are for SBSs.

In addition to the above related mostly to actual ATVing, other operating expenses also cover participation in jamborees, driving to and accommodations at competitive events and board and annual meetings.

Jamborees

The Jamboree activities were recorded by the NBATVF as:

- Approximately 300 All-Terrain Vehicles (to include SxSs) registered;
- Approximately 400 people;

- Singles, many couples, some families;
- Vast majority drove to the event, many also had trailers to haul their All-Terrain Vehicles;
- Estimate 60% within 100 km, 30% over 100 km, 10% over 300 km away;
- Approximately 150 camped at on the event grounds or the co-located campground or rented cabins at the campground;
- Approximately 100 stayed in local hotels;
- Approximately 150 were locals and just came for each day;
- 3 different food trucks used throughout the weekend; and,
- 40 volunteers.

From the above information and based on the average party size at events of 2.18 from the sample inclusive of attendees and volunteers about 202 vehicles were driven to and from the jamboree at an average cost of \$75.45 resulting in vehicle cost for ground transportation costs of \$15,200. Also combining information from above and using average costs from the survey expenditures, broken out in Table 8 at the jamboree totalled \$99,700.

Table 8: Jamboree 2017 Expenditures by Attendees (\$1,000s)

Activity	Expenditures
Fees	10.3
Vehicle costs	15.2
Hotel	10.1
Camping	6.9
Accommodations	17.0
Clothing (T-shirts)	1.1
Food	57.2
Total	99.7

Sources: NBATVF and survey averages.

If anything expenditures on clothing are an estimate in that they include only T-shirts purchased at the jamboree rather than general clothing expenditures specific for ATViing that may have occurred as part of the same trip. They are captured for competitive events.

Competitive Events

Of the 2038 respondents, 2030 answered questions on attending events other than the jamboree. The estimated level of participation under various guises appears in Table 9³.

³ Because 477 of the respondents participated with more than one type of All-Terrain Vehicle, the sum of the sample sizes exceeds the number sampled. The estimated population data have been adjusted downward sufficiently to eliminate any double counting

Table 9: Attendance at New Brunswick Events by All-Terrain Vehicle Participants 2017 (Appearances)

Type of ATV	n	Competitor	Official	Spectator	Total
SBS	924	14,528	7,733	10,360	32,621
ATVs	1456	16,928	9,408	14,139	40,475
Other ATVs	127	1,478	1,140	1,259	3,878
Total	2030	32,935	18,281	25,758	76,974

In order to attend and compete in these events, other than the jamboree, attendees made expenditures on specific types of accommodations as noted in Table 10. Even at these modest rates, accommodation expenditures for all attendees amounted to \$10.8 million concentrated in cabins, motels and hotels.

Table 10: Accommodation Expenditures by 2017 Attendees at New Brunswick ATVing Events (\$1,000s)

Accommodations	N	Nights of Accommodations	Room Rates	Expenditures
Cabin	1,948	30,474	80	2,437.9
Motel	1,938	17,188	90	1,546.9
Hotel	1,932	13,927	110	1,532.0
Bed & breakfast	1,936	13,562	100	1,356.2
Tent	1,942	16,317	50	815.9
RV	1,939	20,798	50	1,039.9
Stay with friends	1,931	26,376	50	1,318.8
Other	1,906	15,746	50	787.3
Total		154,387	70	10,834.8

The Smith Gunther/NBATVF survey also tracked driving expenditures in conjunction with these events. The above participants drove 5,279,406 km to attend these events. Converting these distances to dollars using the Federal Treasury Board Guidelines estimates (\$0.555/km)⁴ sets transportation expenditures at \$5,897,347, more than half of spending on accommodations at events. Similarly deploying Treasury Board meal allowances of \$86.80/capita⁵, Smith Gunther

⁴ <http://www.njc-cnm.gc.ca/directive/d10/v10/s97/en%22%20/l%20%22s97-tc-tm>. Smith Gunther utilizes the Ontario rate per km of \$0.555 rather than the New Brunswick one which is \$0.05 lower for no obvious reason.

⁵ <https://www.njc-cnm.gc.ca/directive/d10/v238/s659/en>.

estimates food and beverage expenditures by those utilizing accommodations while attending events at \$29.1, million⁶.

⁶ This estimate assumes that travel timing justifies a full day's meal allowance for each night of accommodation. Any overestimated in this regard are likely to be offset by the lack of any food allowance for those attending from nearby who would in all likelihood consume at least one meal purchase over each day of an event.

Chapter 3: Tourism Expenditures

Introduction

Because many All-Terrain Vehicle owners travel in excess of 50 km to attend events they may be classified as tourists who are attracted to do their ATViing in New Brunswick. This chapter distinguishes tourism activities among those discussed in the previous chapter in two areas, event expenditures and attending events.

Events

Survey respondents were asked to distinguish between participating in events within 50 km of their residence or beyond 50 km and in both cases to indicate the one-way distance they travelled. If respondents indicated 50 km precisely they were left in whichever group they chose, so essentially Smith Gunther let them round down or up by their revealed response. In both cases respondent were given the option to indicate the question did not apply -a perfectly good response for a respondent who did not participate in events of either or both distances. Among the 2,030 respondents to this question, 444 responded that they did not participate in events at all. Smith Gunther accounted for this response when extrapolating from sample responses to population estimates so sample and population shares not participating remain the same.

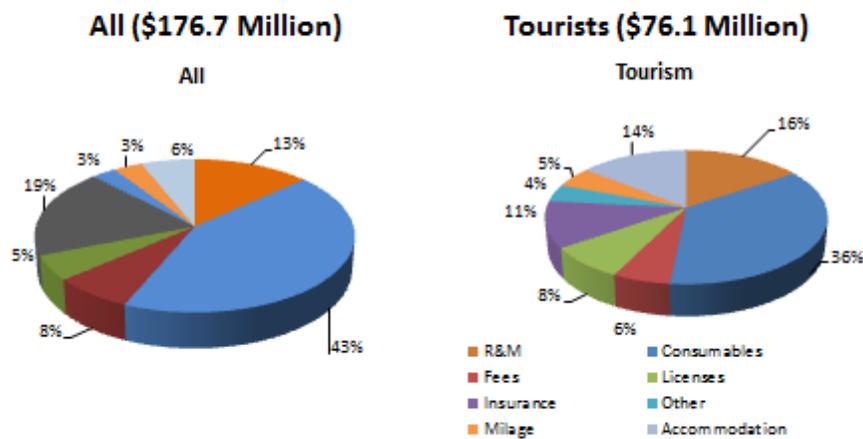
In addition others participate in events held both within 50 km and further away. Since it is impossible to separate their shares of expenditures between tourism and non-tourism events, they were dropped from the analysis leaving 316 event participants classified as tourist and 456 who were non-tourists, a smaller sample size for each of these expenditure classifications in Table 11 than in other metrics.

Table 11: All-Terrain Vehicle Tourism Expenditures on Material Goods, Fees, Licenses and Insurance in 2017 (\$1,000s)

Expenditure	Expenditures				% of Total
	SBS	ATVs	Other ATVs	Total	
Repair & maintenance	4,267	7,312	235	11,813	50.4%
Gasoline	3,693	5,978	330	10,001	36.8%
ATV clothing	4,190	5,107	411	9,708	34.8%
Food and beverage	2,805	4,539	384	7,727	36.5%
Event fees	502	954	46	1,502	34.8%
Club fees	807	845	41	1,692	34.1%
Trail fees	512	686	29	1,228	34.1%
Licence and upgraded transportation	1,573	4,433	42	6,048	64.8%
Casualty insurance	1,338	2,394	107	3,840	26.2%
Liability insurance	1,964	2,591	118	4,674	25.2%
Other	801	2,391	11	3,204	65.2%
Sum	22,452	37,230	1,753	61,436	38.4%

Relative shares among these expenditures are consolidated in the right-hand panel in Chart 4. The left-hand panel presents parallel data for the total population less Accommodations which are only in Tourism.

Chart 4: Summary of All-Terrain Vehicle and Tourism Expenditures Shares in 2017



With 40.4 percent of participants tourism expenditures accounted for 43.0% of event expenditures by attendees. Tourist expenditures are especially strong in Repair and Maintenance, Upgraded transportation equipment and accommodations. Tourist expenditures are weaker in the remaining expenditures, especially so in both insurance categories.

In addition, tourists ATVing covered 85.0 million km or 28% of total ridden ATVing. In contrast with the general population's 28% of the distances covered by SBSs, 34% of the distance tourists covered ATVing was on SBSs.

In addition tourist incurred costs in driving to events of \$3.8 million. Combining tourists' general expenditures at events with their vehicle costs, and adding in all the overnight expenditures obtains tourism total tourism expenditures of \$76.1 million.

Summary

Table 12 adds 2017 ATVing capital investments and operating expenditures at \$358.6 million which culminates into the direct shock to the New Brunswick economy. These data constitute the stimulus from ATVing activities within the province.

Table 12: Summary ATVing Capital Investments and Operating Expenditures 2017 (\$1,000s)

Capital Investments	All	Tourism
New SBSs, ATVs and other ATVs	97,348	
Upgraded vehicles & trailers	82,696	
Trail construction	1,800	
Capital Total	181,843	
Operating Expenditures 2017 (\$1,000s)		
R&M	23,434	11,813
Consumables	76,239	27,436
Fees	12,885	4,422
Licenses	9,335	6,048
Insurance	33,245	8,514
Other	4,915	3,204
Transportation	5,807	3,790
Accommodation	10,835	10,835
Operating expenses	176,693	76,061
TOTAL	358,537	76,061

The 40.4% of those who are classified and tourists incurred \$76.1 million in operating expenses or 43.0% or total operating expenses of \$176.7 million.

Chapter 4: Economic Impacts

Introduction

This chapter utilizes the direct economic impacts established in the previous chapter to shock the Interprovincial Input Output Table (I/O) for 2014, the latest available from Statistics Canada. This process establishes what ATVing contributes to the New Brunswick and Canadian economies. The underlying assumption is that funds expended on ATVing investments and operating costs would either not have been spent in Canada at all or spent on imports. While obviously a strong assumption it facilitates Smith Gunther answering the question; “What does ATVing in New Brunswick do for that provinces’ and Canada’s economy?” To the extent that the funds would have been spent on other things in the province or in Canada, net impacts will be overstated, but not the economic activity generated by All-Terrain Vehicle expenditures.

Imports of most All-Terrain Vehicles into the country weaken the initial ties to the New Brunswick and Canadian economies. Similarly the lack of Canadian headquarters in New Brunswick shift possible benefits for New Brunswick out of the province. Because headquarter jobs tend to be fulltime and relatively highly remunerated, Canadian wage and salary impacts are higher per employee impacted than remuneration in New Brunswick.

Following the brief methodology, this chapter examines the contribution of ATVing in New Brunswick to its Canada’s GDP at market prices, jobs, labour income and governments’ net revenues.

Brief Methodology

This chapter observes various provincial and national economic indicators with an emphasis on provincial impacts. It utilizes the I/O table to derive three types of impacts as described by Statistics Canada:

- Direct effects measure the initial requirements for an extra dollar's worth of output of a given industry. The direct effect on the output of an industry is a one dollar change in output to meet the change of one dollar in final demand. Associated with this change, there will also be direct effects on GDP, jobs, and imports;
- Indirect effects measure the changes due to inter-industry purchases as they respond to the new demands of the directly affected industries. This includes all the chain reaction of output up the production stream since each of the products purchased will require, in turn, the production of various inputs; and,
- Induced effects measure the changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.

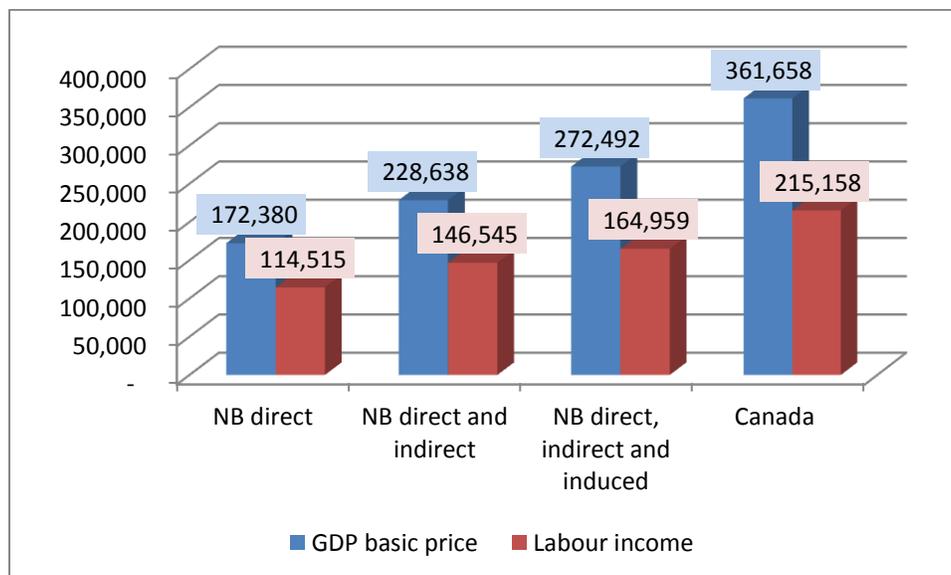
The sums of the three types of impacts yield total impacts.

All New Brunswick ATVing

GDP at Market Prices and Labour Incomes

The first three columns of Chart 5 illustrate contributions made by ATVing to both GDP at basic prices and labour incomes. Direct GDP impact occurs in \$172.4 million which through industrial ties within the province leads to Direct and indirect GDP of \$228.6 million. Spending of incomes generated by those activities and other induced income result in total GDP impacts of \$272.5 million. These are the impacts of ATVing on the New Brunswick economy.

Chart 5: GDP and Labour Income Impacts of ATVing 2017 (\$1,000s)



Because GDP is also the impact value added to the economy it is distributed to labour (wages, salaries and fringe benefits) investors (Gross operating surpluses before deductions for depreciation) and governments (taxes net of subsidies). Not unexpectedly the chart illustrates that impacts on labour income are consistently less than those on GDP and, due to trade leakages out of New Brunswick to Canada those gaps widen from direct to total impacts.

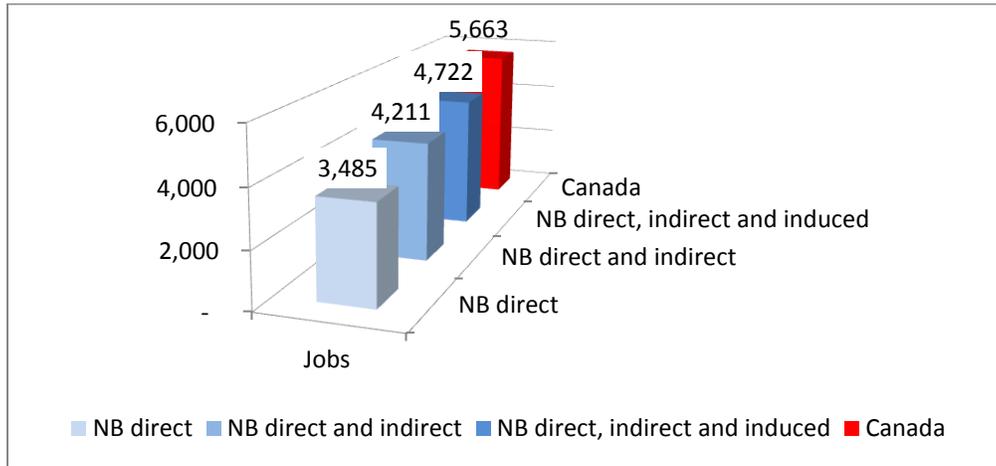
Contrasting the last two sets of columns illustrates impacts taking place in New Brunswick and Canada inclusive of New Brunswick, with the differences between them accruing in the rest of Canada.

Jobs

The I/O data on employment is measured as jobs including both part-time and fulltime employees. This metric has the disadvantage that average salaries do not measure fulltime remuneration. ATVing in New Brunswick called forth 4,722 jobs as shown in Chart 6. Of these

jobs 3,485 were direct, 726 indirect and 511 induced. An additional 941 jobs in the rest of the country depend on New Brunswick ATVing.

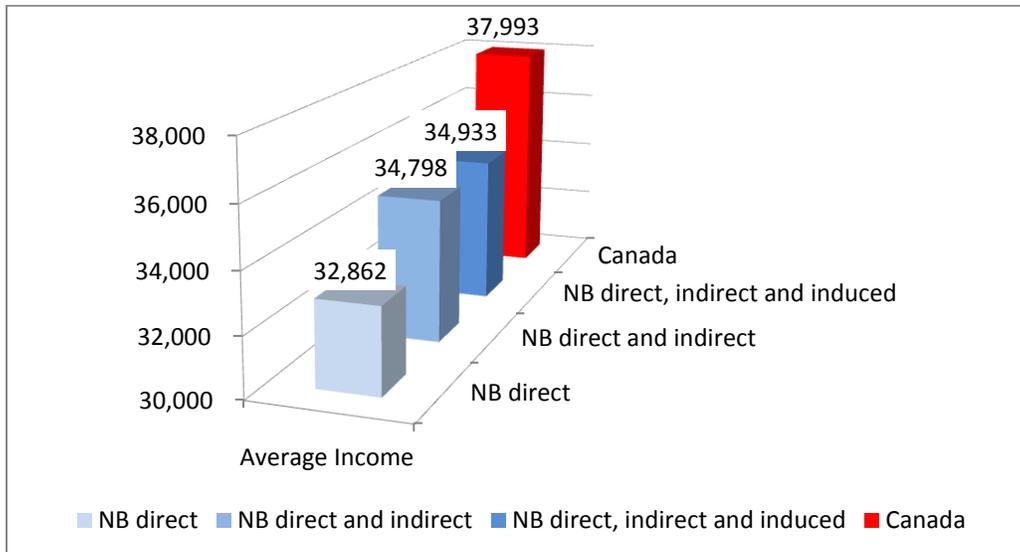
Chart 6: Job Impacts of ATVing 2017 (\$1,000s)



Average Income

With a preponderance of ATVing expenditures going to maintenance and repair, accommodations and food and beverages where part time jobs are frequent, direct average wages and salaries are relatively low compared to those which are more inclusive of indirect and induced expenditures impacts as noted in Chart 7.

Chart 7: Average Income Stemming from New Brunswick ATVing 2017

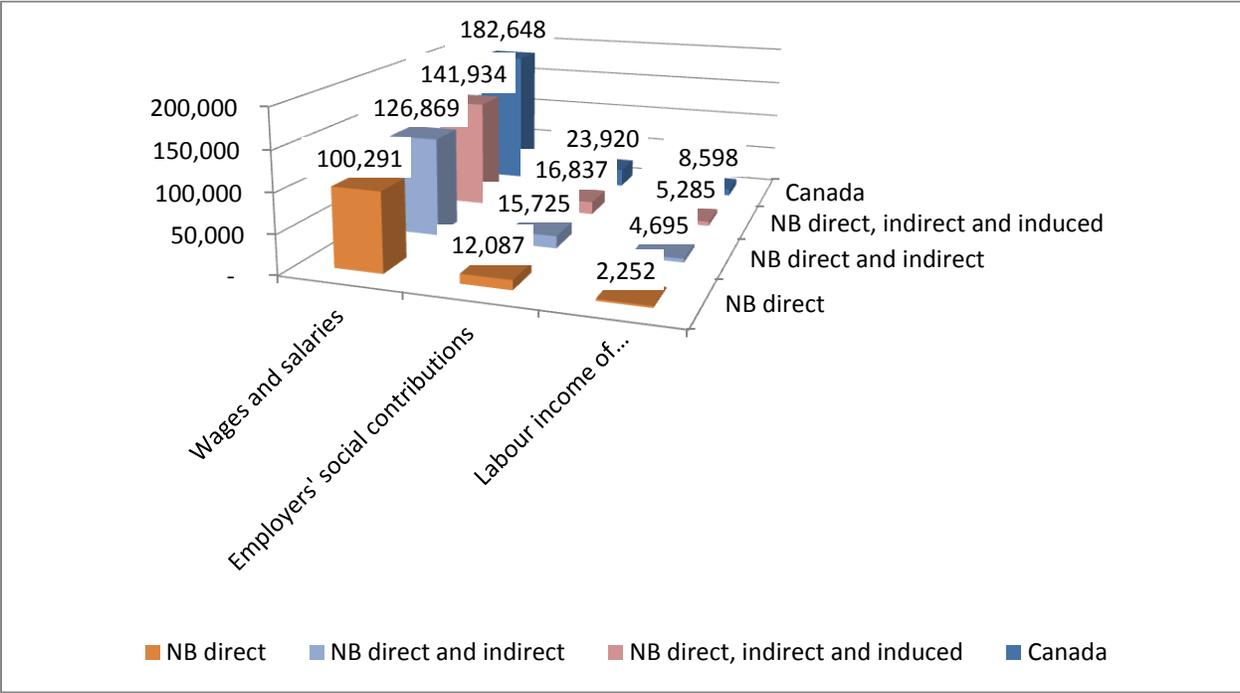


Average derived Canadian incomes are higher, as depicted by the last two columns, due to both a greater share of fulltime jobs in headquarters and generally higher levels of remuneration than prevail in New Brunswick.

Income Composition

Labour income is comprised of wages and salaries, employers’ social contributions, and labour income of unincorporated businesses. Chart 8 illustrates that category “wages and salaries” dominates among three. It also shows that New Brunswick residents generate a larger share of Canadian wages and salaries from New Brunswick ATVing than they do from other sources of labour income.

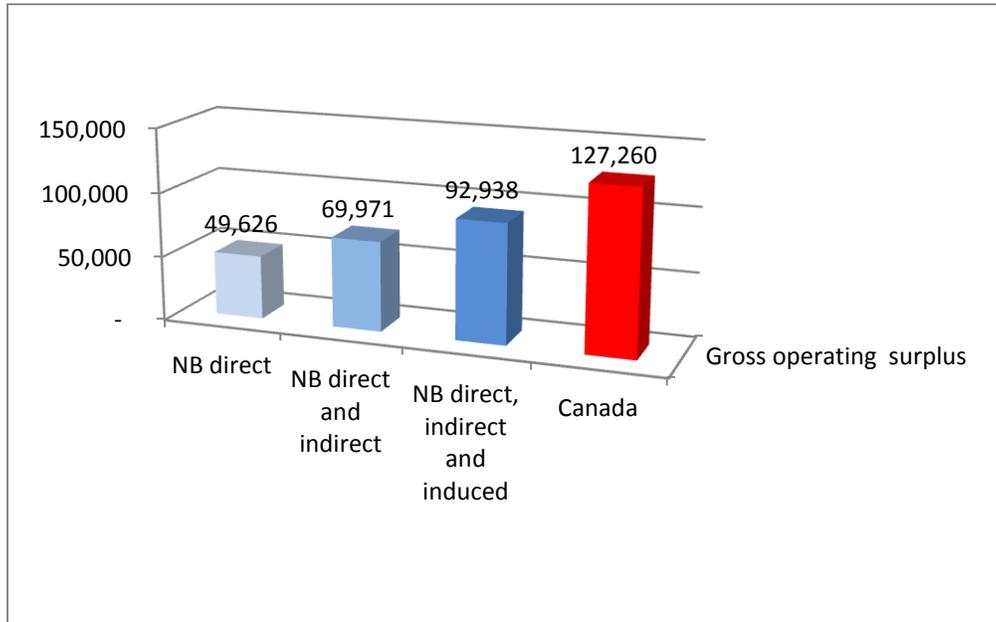
Chart 8: Composition of Incomes Stemming from New Brunswick ATVing 2017 (\$1,000s)



Gross Operating Surplus

The second major component of GDP is gross operating surplus (GOS). Like GDP its self, GOS is a gross measure before netting out depreciation so it is not a good measure of net profits.

**Chart 9: Gross Operating Surplus Stemming from New Brunswick ATVing 2017
(\$1,000)**

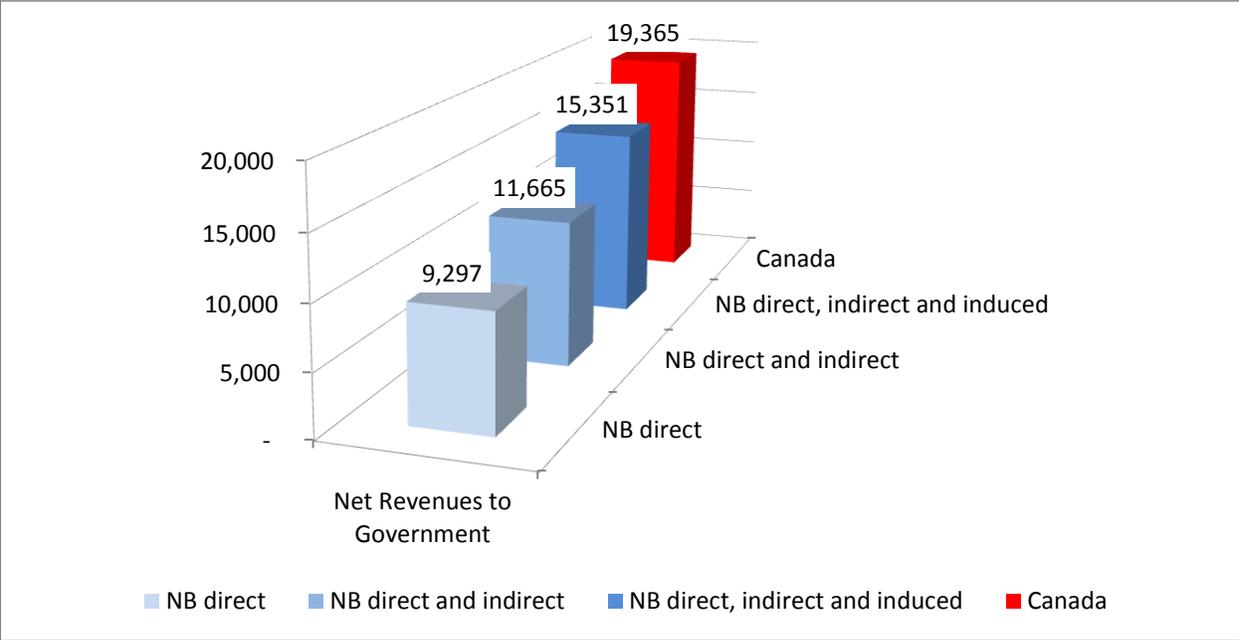


Nevertheless Chart 9 illustrates that ATVing contributes to raising gross operating profits especially through direct and induced mechanisms which, by this measure are relatively healthy compared with industries directly impacted.

Government Revenues

Through the fiscal system governments also garner net revenues from ATVing. Chart 10 depicts net operating revenues of government. They are net in that incremental subsidies accruing both indirectly and from induced spending are subtracted from incremental taxes and governments fees.

Chart 10: Government Net Revenues Accruing from New Brunswick ATVing 2017 (\$1,000s)



These series estimate funds raised for local, provincial and federal governments in New Brunswick, not funds for the New Brunswick and federal governments. Rather these funds are raised among all orders of government. Direct indirect and induced expenditures from ATVing in New Brunswick generated \$15.4 million in revenues for governments. Further funds of \$4.0 million attributable to New Brunswick ATVing were generated in the rest of the country from ATVing in the province.

Tourism

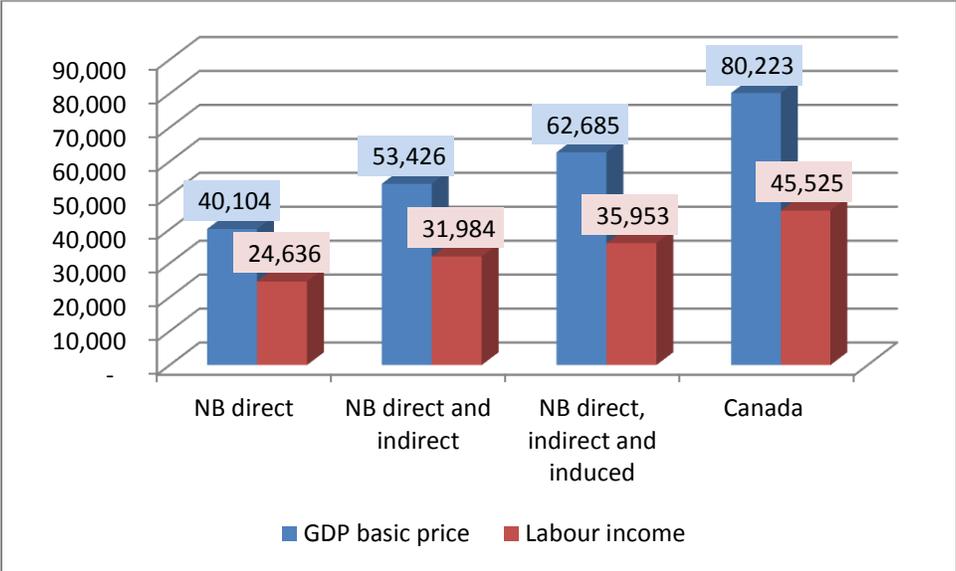
This section examines the impact of ATVing expenditures classified as tourism in the same sequence as the first half of this Chapter. As noted Tourism operating expenditures are slightly over \$100 million less than total operating expenditures on ATVing. Further, in this work tourism expenditures exclude all capital purchases. This different mix of industries lowers expectations about additional incomes because there is a greater preponderance of direct employment on part time jobs in accommodation and food and beverage industries than in the other industries involved with general operating expenditures.

GDP at Market Prices and Labour Incomes

The first three columns of Chart 11 illustrate contributions made by ATVing tourists to both GDP at basic prices and labour incomes. ATVing tourist expenditures demand production of

direct GDP impacts worth \$40.1 million which through industrial ties within the province leads to Direct and indirect GDP of \$53.4 million. Spending of incomes generated by those activities and other induced income result in total GDP impacts of \$62.7 million. These are the impacts of ATVing on the New Brunswick economy.

Chart 11: GDP and Labour Income Impacts of ATVing Tourists 2017 (\$1,000s)



Because GDP is equal to the value added to the economy, it is distributed to labour (wages, salaries and fringe benefits) investors (Gross operating surpluses before depreciation) and governments (taxes net of subsidies). Not unexpectedly the chart illustrates that impacts on labour income are consistently less than those on GDP and, due to trade leakages out of New Brunswick to Canada and internationally those gaps widen in adjusting from direct to total impacts.

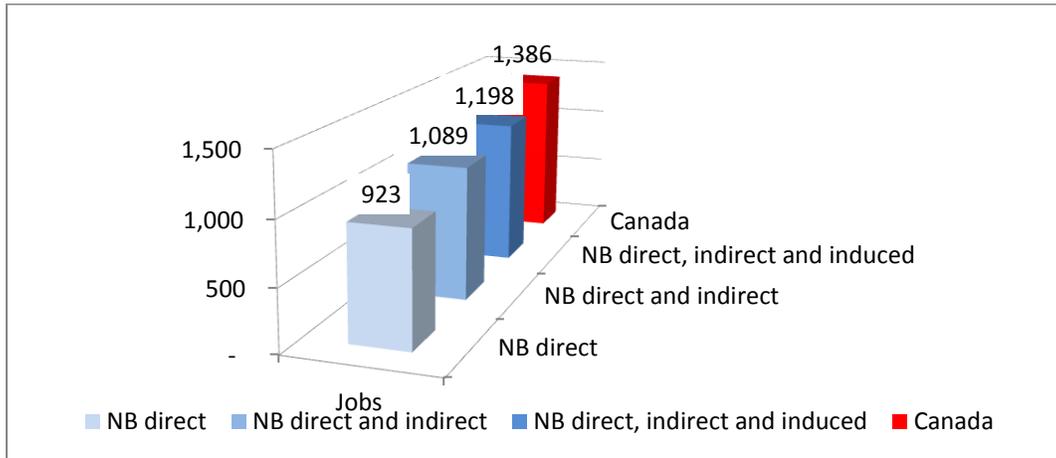
Contrasting the last two sets of columns illustrates impacts taking place in New Brunswick and Canada inclusive of New Brunswick, with the differences in each metric accruing in the rest of Canada. Of the nationally GDP stimulated by tourism \$17.5 million occurs in the rest of the country. Similarly \$9.4 million of the stimulated incomes accrue outside of New Brunswick in contrast to \$36.0 million within the province.

Jobs

The I/O data on employment is measured as jobs including both part-time and fulltime employees. This metric has the disadvantage that average salaries do not measure fulltime remuneration. ATVing in New Brunswick by tourists called forth 1,198 jobs as shown in Chart 6.

Of these jobs 923 were direct and 166 were indirect leading to the total job impacts from ATVing tourism. An additional 188 jobs depend on New Brunswick ATVing in the rest of the country as illustrated in Chart 12.

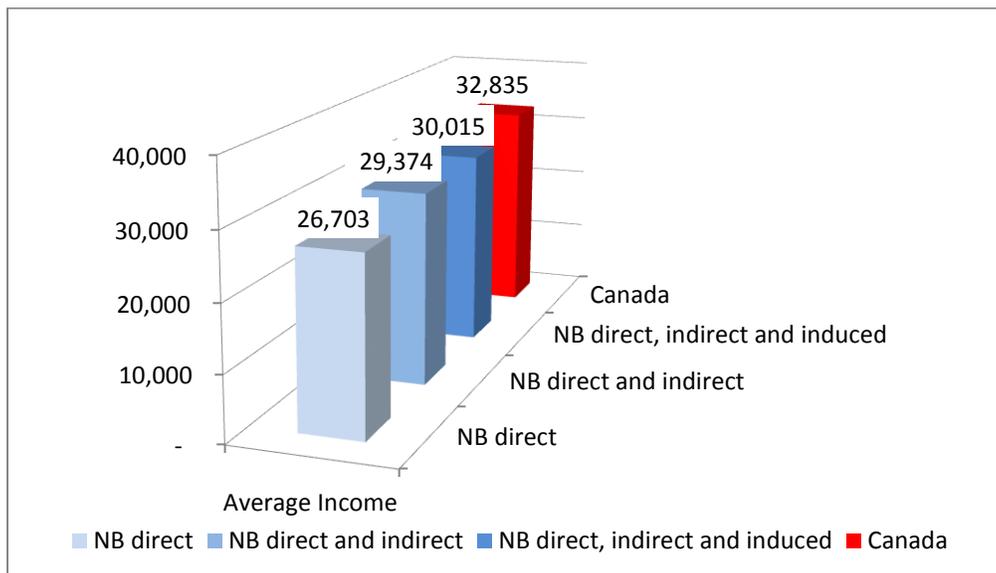
Chart 12: Job Impacts of ATVing by Tourists 2017 (\$1,000s)



Average Income

Shown in Chart 13, with a preponderance of ATVing expenditures going to maintenance and repair, accommodations and food and beverages where part time jobs are frequent, direct average incomes are relatively low compared to those which full time work is available as noted in Chart 7. Among those employed directly tourist ATV activities average annual incomes are \$26,703 relative to \$32,862 for all those directly employed in supplying ATVing participants.

Chart 13: Average Income Stemming from New Brunswick ATVing by Tourists 2017



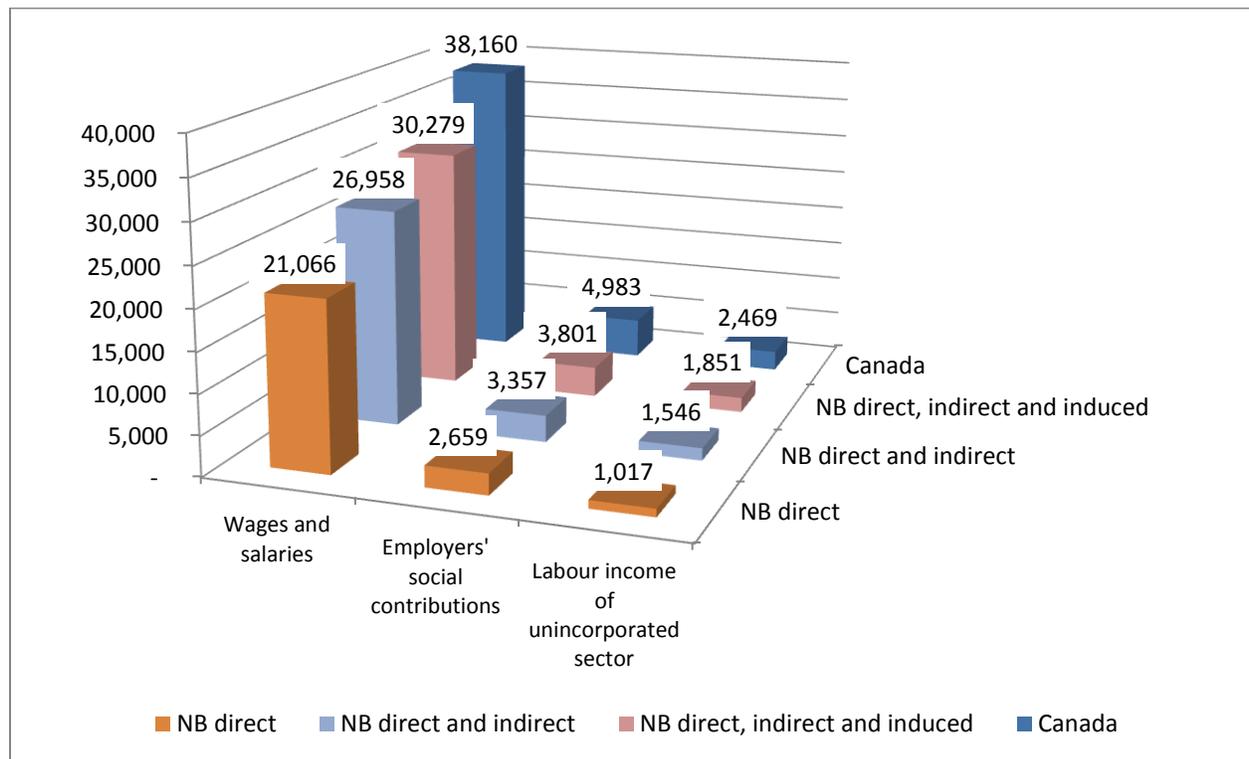
Relatively poor direct income performance is sustained through the other income estimates not just because just because direct average remain in the equation but because with lower direct income there is less induced spending.

Average derived Canadian incomes are higher, as depicted by the last two columns, due to both a greater share of fulltime jobs in headquarters and generally higher levels of remuneration than prevail in New Brunswick. They however remain below those of total ATV impacts .due to the mix of incentivized industries.

Income Composition

Chart 14 illustrates that category “wages and salaries” dominates among three types of labour, but at lower levels than in all instances relative to those dependent on all new Brunswick ATVing. Contrasting this chart with Chart 8 shows that New Brunswick residents generate a larger share of Canadian wages and salaries from New Brunswick ATVing than they do from other sources of labour income.

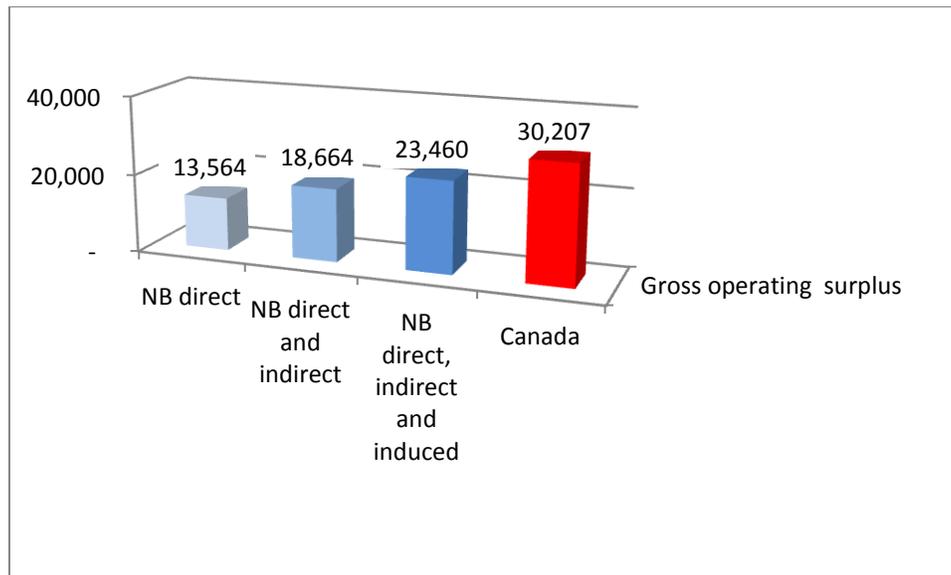
Chart 14: Composition of Incomes Stemming from New Brunswick ATVing by Tourists 2017 (\$1,000s)



Gross Operating Surplus

The second major component of GDP is gross operating surplus, Like GDP its self, GOS is a gross measure before netting out depreciation so it not a good measure of net profits. Of the operating surplus generated from New Brunswick ATVing slightly more than a quarter of it in New Brunswick and less than a quarter of it in Canada comes from tourism. A simple cross-reference between Chart 15 and 9 will confirm this comment.

Chart 15: Gross Operating Surplus Stemming from New Brunswick ATVing by Tourists 2017 (\$1,000)

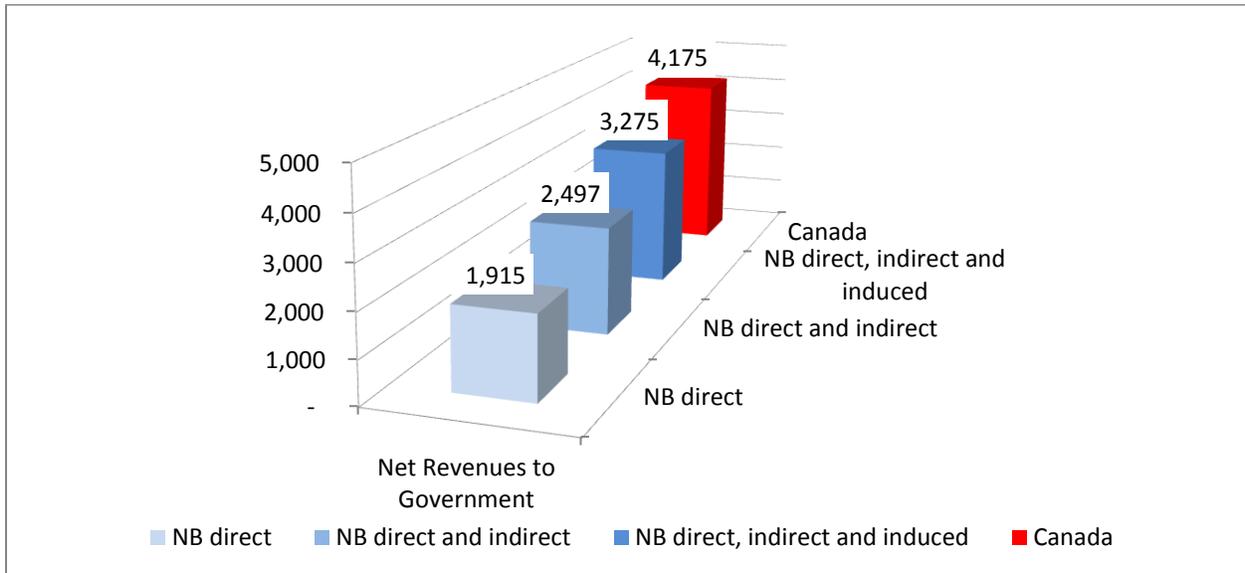


Nevertheless Chart 15 illustrates that ATVing contributes to raising gross operating profits

Government Revenues

Through the fiscal system governments also garner net revenues from ATVing. Chart 16 depicts net operating revenues of government derived from ATVing tourism. They are net in that incremental subsidies accruing both indirectly and from induced spending are subtracted from incremental taxes and governments fees. These too are roughly a quarter of total government revenues from all ATVing activities.

Chart 16: Government Net Revenues Accruing from New Brunswick ATVing by Tourists 2017 (\$1,000s)



These series estimate funds raised for local, provincial and federal governments in New Brunswick, not funds for the New Brunswick and federal governments. Rather these funds are raised among all orders of government. Direct indirect and induced expenditures from ATVing in New Brunswick generated \$15.4 million in revenues for governments. Further funds of \$4.0 million attributable to New Brunswick ATVing were generated in the rest of the country from ATVing in the province.

Conclusions

In order to be conservative in estimating Tourism impacts no capital impacts have been included in tourism. That may be an overly harsh treatment of those expenditures on both All-Terrain Vehicles and trails, especially where the trails are designed to create loops for multi-day excursions. Smith Gunther has also taken the travel distance to be from residence to trailhead. This too is conservative especially for multi-day excursions which take tourists deep into the woods in essence further away from home than the trailhead. For those reasons the estimates of tourism activities are modest albeit they are a start to delineating ATVing tourism.

Smith Gunther determined the full economic impacts of the combined capital investments and operating expenditures by applying Statistics Canada's Input Output multipliers for New Brunswick and Canada to more disaggregated versions of the above data in order to establish the industries directly impacted. These findings established total economic impacts of New Brunswick ATVing as follows:

- GDP at basic prices in New Brunswick of \$272.5.0 million and \$361.7 million in Canada inclusive of New Brunswick;
- Labour Income of \$165.0 million in New Brunswick and \$215.2 million in Canada;
- New Brunswick incremental Labour income from ATVing was comprised mainly of wages and salaries (\$141.9 million) supplemented by Employers Social Contributions (\$16.8 million) and Labour Income of unincorporated businesses (\$5.3 million).
- New Brunswick ATVing generated 4,722 jobs in the province and 5,663 in Canada;
- Given that many of the direct jobs were part time the average income from the direct jobs was below provincials norms albeit above the poverty level at \$32,862;
- Due to greater shares of full time employment and higher levels of remuneration in industries supplying those benefiting from ATVing direct expenditures, indirect and induced increased the average level of incomes benefiting from ATVing to \$34,800 for direct and indirect impacts and \$34,900 for direct, indirect and induced in New Brunswick and \$38,000 in total for Canada.
- Wages and salaries in New Brunswick increased by \$114.5 million for direct employees, \$146.5 million for those directed and indirectly employed and \$165 million for all impacted employees; i.e. \$18.5 million earned from induced expenditures.
- Another \$50.2 million was earned elsewhere in Canada.
- Net revenues accruing to all governments generated from ATVing in New Brunswick were \$15.4 million from activities occurring in the province and a further \$4.0 million in the rest of the country.

Parallel results for tourism expenditures for ATVing are as follows:

- GDP at basic prices in New Brunswick of 62.7 million and \$80.2 million in Canada inclusive of New Brunswick;
- Labour Income of \$36.0 million in New Brunswick and \$45.5 million in Canada;
- New Brunswick incremental Labour income from ATVing was comprised mainly of wages and salaries (\$30.3 million) supplemented by Employers Social Contributions (\$3.8 million) and Labour Income of unincorporated businesses (\$1.9 million).
- Generated 1,198 jobs in the province and 1,385 in Canada;
- Given that many of the direct jobs were part time the average income from the direct jobs was below provincials norms albeit above the poverty level at \$26,703;
- Due to greater shares of full time employment and higher levels of remuneration in industries supplying those benefiting from ATVing direct expenditures, indirect and induced increased the average level of incomes benefiting from ATVing to \$29,400 for direct and indirect impacts and \$30,000 for direct, indirect and induced in New Brunswick and \$32,800 in Canada.
- Wages and salaries in New Brunswick increased by \$24.6 million for direct employees, \$32.0 million for those directed and indirectly employed and \$36.0 million for all impacted employees; i.e. \$4.0 million earned from induced expenditures.
- Another \$9.5 million was earned elsewhere in Canada.
- Net revenues accruing to all governments generated in New Brunswick were \$3.3 million from activities occurring in the province and a further \$0.9 million in the rest of the country.

Appendix A: Smith Gunther/NBATVF Survey