

## 1. Introduction

The Trans Canada Trail initiative was conceived by the Canada 125 Corporation, the body established to celebrate Canada's 125<sup>th</sup> year of Confederation. Since defunct, the legacy of the Canada 125 Corporation lives on through the vision and completion of the Trans Canada Trail. The Canada 125 Corporation provided seed funding for the Trans Canada Trail Foundation, the organization responsible for the promotion and co-ordination of many aspects of the national trail.

Stretching approximately 16,000 kilometres across every province and territory, the Trans Canada Trail will be the longest trail of its kind in the world. The trail is intended for the shared use of 5 primary activities: hiking/walking, biking, horseback riding, snowmobiling and cross-country skiing. The Trail will be geographically diverse; established along existing trails, parks and Crown lands, abandoned railway lines, alongside railway lines and across private land.

Among the many reasons for building the Trans Canada Trail, including the preservation of the environment, promoting physical exercise and a venue for safe, family activity, is the generation of economic benefits that increased visitation can bring to a local economy. Trails have the potential to generate significant economic benefits for the regions they pass through and for a province as a whole.

Numerous economic impact studies have shown that trails throughout Canada and the United States are responsible for attracting users who have spent millions of dollars as a result of the trails. These expenditures have created significant benefits for local and provincial/state economies. Other regions have also benefited from trail development and business activity;

- First, through direct increases in business activity in response to direct purchases by trail users; and,
- Secondly, indirectly by providing services and products to an increasing number of businesses that have sprung up to sustain the operations of the trail and the demands of its users.

Local and non-local expenditures on goods and services such as accommodation, food, museums and retail goods help to create benefits in a region, sustaining businesses, jobs and providing tax revenue.

PricewaterhouseCoopers LLP, Econometric Research Limited and EDA *Collaborative Inc.* were retained in February 2000 by Alberta Community Development to estimate and summarize the regional and province wide economic benefits associated with the usage of two sections of the proposed Trans Canada Trail in Alberta:

- One section of abandoned railway right of way between Camrose and Drumheller; and,
- A section between Drumheller, Irricana and Wimborne. **Appendix 1** provides a map of the study section of the Trans Canada Trail.

The shaded area around the trail on the map in **Appendix 1** defines the “region” or “local” boundary for the purposes of this study. This region is established by a 20-km distance on either side of the trail. This is a common boundary measure for economic impact studies.

The study objective is to quantify the economic benefits that will be generated for the regional and Alberta economies as a result of the one-time construction costs and the annual user expenditures and trail maintenance costs for the study section of Trans Canada Trail.

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## **General Description of the Trans Canada Trail Study Section**

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The study section of trail is a 324-kilometre stretch of proposed trail that runs through east central Alberta. The study section of trail runs from Edberg, south to Drumheller, then runs west to Acme, splitting into two sections, which run north to Wimborne and south to Irricana. **Appendix 1** provides a map of the study section of trail. For the purposes of the results of the economic impact analysis, the trail area and the 20 km boundary on either side of the trail, as seen on the map, defines the area that is considered “regional” and “local.”

The proposed trail alignment is largely abandoned rail bed, with the ballast still intact in sections. Much of the proposed trail alignment, with the exception of the towns, runs through

rural agricultural land of either crop or livestock production. The most geographically unique portion of the proposed trail is classified as “badlands,” which are historic riverbeds that have been eroded and formed by wind and running water. This section of proposed trail runs north and west out of Drumheller.

Grade variances along the trail are minor due to the previous use as a rail line. Sections of the proposed trail alignment run along roadways.

Much of the current alignment is unused, however some sections have become used by locals as undesignated recreational trails. Sections of proposed trail cross or intersect parcels of privately owned land. Landowners in certain sections have erected fencing to keep trail users from crossing their property, to ensure that they do not trespass or to keep livestock from entering the right of way or exiting onto municipal roads. In either case, the fencing has disrupted and blocked use of the trail.

Ownership of the study section of proposed trail is fragmented, with the Trans Canada Trail Foundation owning the sections from Carbon to Kirkpatrick, Irricana to Acme to Carbon and Acme to Wimborne. The East Central Alberta Heritage Society owns the section from Edberg to Morrin.

The Statistics Canada Census indicates that the local population (i.e., those people living within a 20-kilometre radius on either side of the trail) was 43,340 in 1996.

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## **Trail Upgrades and Construction Required**

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Several sections of the proposed trail alignment were visited in order to gain an appreciation for the level and extent of construction that would be necessary to bring the rail-line up to a standard acceptable for the Trans Canada Trail. Discussions with Mr. Bill Wiesner, a local contractor for Alberta TrailNet, provided general information on some inaccessible sections of the Drumheller - Carbon line.

While the majority of the rail bed is in excellent condition, there are some sections that would require extensive upgrading to become usable as a trail. The Drumheller to Carbon section requires the most work, with several creek bridges missing and some large culverts to replace. The Acme to Meers section is also missing three bridges, however, these locations could likely

be regraded to avoid construction of new bridges. Most other sections of the rail-line visited were in excellent condition and would provide a solid base for trail construction. They could in fact be used in their current condition as a rugged trail.

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## **Report Format**

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In addition to the Executive Summary contained at the front, this report contains six sections. These are:

- Section 1 – Introduction: a description of the study background, study objectives, a commentary on the location of the proposed sections of the Trail, the existing condition of Trail and possible construction upgrades required and report format;
- Section 2 – Economic Impact Analysis & Study Methodology: a discussion of economic impacts, the study approach, assumptions, data inputs and study limitations;
- Section 3 – Trail Opportunities: a discussion of experiences in other jurisdictions related to trail development, trail user and preference information gathered during the study process and potential tourism development and marketing opportunities;
- Section 4 – Results of Economic Impact Modelling: a description and interpretation of the results of the economic impact model, essentially an understanding of the economic benefits that are estimated to be generated as a result of this portion of the Trans Canada Trail; and,
- Section 5 – Conclusions: our final conclusions and discussion of how the proposed Trail can provide the potential to generate economic benefits for the region and the province.

## 2. Economic Impact Analysis & Study Methodology

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### What is Economic Impact Analysis?

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A dollar spent on trail construction, maintenance or by users of the trail, circulates and recirculates within the economy, multiplying the effects of the original expenditures on overall economic activity. This process is referred to as the **economic multiplier effect**. It operates at several levels:

- The initial expenditures of the trail users and trail operators on goods and services, wages, materials and other trail-related expenditures are generally referred to as the direct costs of operation and their effects are referred to as the **initial (direct) effects**.
- Subsequent purchases by suppliers of materials and services to sustain the direct expenditures are called the **indirect effects**.
- **Induced effects** emerge when workers in the sectors stimulated by initial and indirect expenditures spend their additional incomes on consumer goods and services.

Some of the key terms and definitions to assist in interpreting the results of an economic impact analysis are provided below:

- **Initial Expenditure** – This figure indicates the amount of initial expenditures in terms of trail user expenditures, and trail construction and maintenance expenditures used for the analysis.
- **Value Added (Gross Domestic Product or Provincial/Regional Income)** – This figure represents the total value of the production of goods and services in the economy resulting from the initial expenditures under analysis (valued at market prices).

- **Employment** – This figure represents the total employment (full time equivalent jobs) generated by the initial expenditure, measured in person years.
- **Taxes** – The model includes a number of taxes, each of which is directly linked with the level of government receiving it. For example, only the Federal government receives GST on goods and services, whereas solely local governments receive business and property taxes.
- **Multipliers** – This is a measure derived by adding direct, indirect and induced effects together and dividing the total by the original expenditure. For example, the income multiplier is calculated by dividing total income by the original expenditure. The only exception is that of the employment multiplier where total employment is divided by direct employment.

If the economy is operating at full employment, additional expenditures will most likely reflect themselves in higher prices and wages as additional workers are drawn from other employment. Only if the economy is operating with excess capacity, unemployment and slack in critical sectors, and there exists no apparent bottlenecks anywhere in the economy, is it possible to claim that the person-years associated with the activity expenditures represent additional or incremental employment.

In economic impact analysis, there is a general but unacceptable tendency on the part of economists generating impact measures to suspend any concern about alternative uses of funds. Resources used in a particular project could have been used in other activities and projects. It is also important to recognize that for certain trail users, most specifically local users, their expenditures as a result of the trail are potentially substitutions for other expenditures that would have been made in the region anyway. Therefore, the input data in **Appendices 2 and 3** distinguishes between local and non-local expenditures, to show the level of expenditure made by non-locals, an indication of “new money” in the local economy, and those made by locals, which may or may not be new money or purchases in the local economy. This study is a **total** economic impact analysis, measuring both local and non-local user expenditure impacts.

Economic impact analysis is a useful mathematical tool capable of quantifying the patterns and magnitudes of interdependence among sectors and activities. It is predicated on two fundamental propositions.

1. First, regardless of the inherent value of primary activities such as recreation or tourism, to the extent that activity involves the use of scarce resources, they generate economic consequences that can be measured and compared.
2. Second, economic impacts are only partially captured by assessing direct expenditures. Inasmuch as the economy is a complex whole of interdependent and interacting activities, there are some significant indirect and induced impacts associated with every direct expenditure. These indirect and induced impacts are often larger than the direct impacts.

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## Approach

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For the purposes of this analysis, we undertook the following steps:

1. Conducted a literature and Internet search for existing trail economic impact studies and trail user studies, such as: An Economic Impact Study for the Allegheny Trail Alliance (1999), Little Miami Scenic Trail Users Study (1999) and The Impacts of Rail Trails: A Study of Users and Nearby Property Owners from Three Trails (1992). ;
2. Reviewed and analyzed existing studies;
3. Carried over 30 phone interviews with representatives from the five activity associations in Alberta and across North America, rail-trail associations and organizations, trail and recreation administrators, and tourism operators to solicit their views on trail usage, including level of usage, typical users and origins, and trip characteristics (i.e., day versus overnight, type of lodging and activity etc.). See **Appendix 4** for a list of interview contacts.
4. Conducted a site visit along the study section of the proposed trail in order to gain an appreciation for the surroundings, potential tourism opportunities and the level of

construction required;

5. Developed daily expenditure figures for each activity based on previous studies and discussions with trail associations and tourism operators;
6. Developed activity usage estimates based on benchmarking of other trails, discussions with activity and trail associations, tourism operators and published data from sources such as Statistics Canada and the Canadian Fitness and Lifestyle Research Institute;
7. Incorporated the daily expenditure and activity usage estimates into demand side inputs for the economic impact model (See Appendices 2 and 3 for model input tables);
8. EDA *Collaborative Inc.* developed the construction cost estimates and estimated annual trail maintenance costs. See **Appendix 5** for construction cost estimates; and,
9. Econometric Research Ltd. undertook economic impact modelling using the DEIM model.

It is difficult to estimate precise economic impact measures in the absence of solid primary data on the expected levels of visitation, the composition of the visitor expenditures and their origins. However, we have investigated other trail comparables and made estimates on that basis. We have therefore provided two levels of economic impacts; a base scenario and a high scenario to reflect higher impact opportunities through more intense marketing and the development of more amenities along the trail.

The base scenario assumes that there will be considerable marketing and promotion of the trail, however it may be somewhat uncoordinated and unfocused towards the target markets or with some of the respective communities not fully supporting the initiative. Additionally, the base scenario assumes that the products, services and amenities (i.e., accommodations, restaurants, campsites, facilities etc.) that could be offered on or along the trail are not developed to their full potential.

The high scenario assumes that there will be extensive promotion and marketing of the trail and its communities. This will be done on a coordinated basis on both national and provincial levels, coupled with support from local tourism offices and chambers of commerce. These marketing efforts will be targeted at the key user groups (i.e., non-locals) through various



media forms. The high scenario also assumes that the communities are successful in encouraging the development of the right mix of businesses and services for trail users, thereby maximizing the opportunity for expenditures.

As a result of increased marketing and the right business mix, the high scenario is likely to attract a larger number of non-local trail users, which is important considering they are typically the larger spending users, bringing “new” money to the economy. Therefore, certain high scenario model inputs have been inflated over the base scenario. The number of non-local users has been increased in the high scenario, as will be discussed below, and the daily expenditures of the hikers and cross-country skiers have been increased 20% and the remaining activity expenditures have been increased 15%.

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## **The Economic Model**

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The impact model used in this study is a special application of a generic model (DEIM: Alberta) developed by Econometric Research Limited. It is a unique model that captures the economic impact of tourism expenditures at the local level (e.g., counties or economic regions), the provincial level (Alberta) and the national level. However, for this study, only regional and provincial impacts have been calculated. The Alberta impacts are those that will be realized for the province as a whole, while the regional impacts are those that will be realized by the local communities within the 20-km trail boundary as indicated on the map in **Appendix 1**.

The model is based on a novel technology that integrates input-output analysis and location theory. The system has already been applied to the study of The Economic Impact of Tourism in Niagara Falls, The Economic Impact of West Edmonton Mall and several other Alberta Economic Development and Tourism projects.

The model generates several output indicators. Those that are important to this study are:

- Initial Expenditure;

- Value Added (Gross Provincial/Regional Income);
- Employment; and,
- Taxes.

The model utilizes a large set of economic and technical databases that are regularly published by Statistics Canada. Some examples of this data include the inter-provincial input output tables, employment by sector, taxes by type of tax and the level of government collecting the tax, prices of products and energy used in physical and energy units.

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### **Key Assumptions**

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The results presented herein are our estimates of the economic impact based on the data and research from the best sources available at this time. There are a number of key assumptions that apply to the entire economic impact analysis for the study sections of the Trans Canada Trail in Alberta. These are:

- The **total** economic impacts of this section of the Trans Canada Trail in Alberta reflect both local and non-local trail users;
- All dollar values represent 2000 year values in Canadian dollars;
- Conversion of American to Canadian dollars was made on the assumption of a 1.4815 exchange rate; and,
- The trail would be developed, operational and integrated into the recreation infrastructure of the Province by 2010. This year represents to the steady state year for the assessment of the impacts, however all impacts were measured in 2000 dollars.

The remaining inputs and assumptions can be broken down into two categories: construction costs and maintenance costs, and user expenditures.

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## Construction and Maintenance Cost Inputs and Assumptions

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### *Construction Costs*

EDA *Collaborative Inc.* landscape architects of Edmonton, provided the one-time construction cost estimates required for the economic impact model. Costing for the study section of proposed trail was derived based on a site inspection, assessment of required upgrades and market based costing for materials and labour, as derived from numerous sources indicated below. As no design work has been completed for this section of the Trans Canada Trail, the construction cost estimates included in this report are based on many assumptions and general standards.

Assumptions regarding the quality of the proposed trail were made in order to derive costing estimates. It was determined that a finer, crushed gravel surface would provide a trail suitable for most potential users. The finer gravel surface is therefore the standard used for estimating purposes. It was assumed that all associated trail facilities (i.e. campsite / trailhead) and creek crossing bridges would be of a very basic standard.

Distance measurements were derived from County plans where available. Allowances were made for some items that could not possibly be estimated at this time with any accuracy (i.e. fencing or landscaping to address residents' security or privacy concerns)

Unit prices were derived from a variety of sources including:

- Professional experience with other trail construction projects;
- Discussions with Wilco, a contractor with extensive trail construction experience throughout the province of Alberta;
- Discussions with Alberta gravel pits regarding the current price of gravel;
- Discussions with a City of Edmonton River Valley Planner regarding standard pedestrian / service access bridge costs;
- Discussions with P-Cann, a pump out toilet supplier / servicer; and,

- Review of Badlands Crossing (Drumheller to Carbon) Trail Report.

After having visited the study sections of proposed trail, and developed a high level construction plan, EDA *Collaborative Inc.* estimated the cost of hard construction at \$6,334,500 and total construction costs, including soft costs and taxes, at \$7.4 million. The construction cost estimate can be found in **Appendix 5**.

However, as is often the case with trail construction, volunteer time plays a significant role in its completion. In modelling the economic impacts, 50% of the labour required to complete the study section of proposed trail was assumed to be volunteer, resulting in a cost savings of over \$830,000. This reduced the total construction cost to approximately \$6.5 million.

### *Annual Maintenance Costs*

To keep the trail in a usable condition, ongoing construction, repairs and maintenance to the trail will be required. This will result in expenditures on materials and labour. Additionally, annual maintenance costs typically include a component, or reserve, for long term capital replacement.

The Province of Alberta, through the Provincial Urban Parks Program, established an estimate of annual maintenance costs as 10% of hard construction costs. As a result, total annual maintenance costs for the study section of the Trans Canada Trail, including a portion for long term replacement costs, is 10% of \$6,334,500, or \$633,450. This figure reflects the actual value of trail maintenance, however this annual cost can be reduced through volunteer labour and donated materials.

In order to ensure that the estimated annual maintenance cost was consistent with industry standards, other trails were benchmarked. Table 1 below indicates that the study estimate is acceptably within the mid range of annual maintenance costs on a per kilometre basis. This would be consistent with a long distance rural trail.

**Table 1 - Comparative Annual Maintenance Costs**

<b>Trail</b>	<b>Type of Trail</b>	<b>Annual Maintenance Cost Per Kilometre (CDN \$)</b>
Little Miami Scenic Trail	Earthen	\$2,300
Florida Blackwater Heritage Trail	Paved	\$11,600
Florida Scenic Trail	Earthen	\$800
La Route Verte, Quebec	Paved	\$1,100
Study Section of Trail	Earthen	\$1,955

SOURCE: PricewaterhouseCoopers LLP

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## **Trail User Expenditure Inputs and Assumptions**

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The user expenditure inputs were derived from significant analysis of existing data and qualitative assessments of information collected and provided by activity and trail associations, tourism operators and study team members.

The majority of the usage figures were derived from the benchmarking of other trails and applying qualitative information to the study section of trail. This allowed us to develop realistic usage estimates given the location of the trail, weather patterns, terrain, alternative activity locations and other qualitative factors.

In the next section, we outline some of the more important qualitative assumptions that were taken into consideration when developing the usage estimate and the components therein. The discussion below also outlines the steps in the analysis and can be followed on table 2 for the base scenario on the following page, table 3 for the high scenario, and further followed on tables 2.1 to 2.6 of **Appendix 2** for the base scenario, and tables 3.1 to 3.6 of **Appendix 3** for the high scenario.

### ***Participation Rate***

The participation rate, as seen in table 2 on the facing page for the base scenario and table 3 on the following page for the high scenario, is the percentage of the population that participates in a given activity during a year. The Province of Alberta undertakes a Recreation Survey, which provides data on the participation rates that are used in this study for the five primary activities.

Past Alberta Recreation Surveys have found that participation rates are somewhat lower in smaller communities. The surveys have also found that for certain activities in smaller communities, the participation rate has been dropping over time, whereas it has been rising in larger communities. We have taken these trends into consideration in our model. The Canadian Fitness and Lifestyle Research Institute participation data was also used in the formulation of the study participation rates.

The result of applying the participation rate to the local population is the total number of local participants, or, those who participate in a given activity. For example, on table 2, of 43,340 locals, an estimated 26,004 participate in walking on trails.

### ***Usage Rate***

Not all participants in a given activity will choose to use the trail, as there are other locations that they may prefer. The measure for incorporating this factor into the analysis is the usage rate. The usage rate is defined as the percentage of participants for a given activity that would choose to use the trail over another venue or location. These estimates were derived using existing trails as benchmarks and through discussions with activity associations, tourism operators and other trail operators.

As can be seen in table 2, the usage rate varies significantly for each activity, which is a reflection of the desirability of using the trail for the particular activity as opposed to another location or venue. As a crosscheck to ensure that the usage rates were accurate and reasonable, the resulting total trail usage estimates were benchmarked against existing trails.

For hikers and walkers, a usage rate of 20% was estimated. Many local participants may not be willing to travel a distance for a walk on a trail, when this activity can be done in proximity to their home on a relatively quiet rural road. However, over time, as the vegetation and wildlife of the trail diversifies, more locals may be willing to travel to the trail to experience the uniqueness of the trail environment.

It was determined that the usage rate for bikers would be high at 80%. Given the length of the trail, a mode of travel faster than walking is beneficial. Additionally, previous studies indicate that bikers typically represent the majority of users. Interviewees from biking and trail associations expressed the opinion that the trail would be very heavily used by bikers, and that this activity would draw more strongly from the non-local population than other activities. Therefore, bikers were estimated to have a higher usage rate.

Discussions with the Equestrian Federation of Alberta lead us to believe that, given the nature of trail riding and the alternative locations, there are attributes riders prefer that the study section of trail cannot provide. Given the difficulty and at times conflicts in usage between horseback riders and other users, horseback riders tend to look for alternative locations where they will have the freedom to ride without conflict. They prefer horse-riding trails built specifically for that purpose. As a result, we have estimated the horseback riding usage rate to be 10%.

Based on conversations with the Alberta Snowmobile Association, snowmobilers were assumed to have a high usage rate as a result of a dedicated trail. The development of the trail would minimize trespassing and private property infractions, and could open some interesting options with respect to tourism and travel to the towns along the Trans Canada Trail. The creation of the trail was viewed as extremely positive by the provincial association, resulting in an estimated usage rate of 90%.

Finally, cross-country skiers were not viewed as significant users of the trail. The nature of the trail, particularly the southern section, is such that the conditions for cross-country skiing would be of marginal quality: it would not be track set; much of it would be wide open, unsheltered and wind-swept; there would be competition for use from snowmobilers; snow quality is likely to be variable; and, there are other locations that would offer a better quality of skiing. Therefore, a usage rate for cross-country skiers of 10% was determined.

Applying the usage rate to the local participants derives the total number of local users, or those participants who would choose to use the trail over another location.

### ***Local User Percentage***

Previous studies indicate that the majority of trail users tend to be local. Given an assessment of the study section of trail, its location and alternative locations for activity in Alberta, we concur with previous studies, believing it would also be predominantly used by locals. Most studies found the percentage of local users to be between 70% and 85%. The local user percentage, as seen on table 2, is essentially the percentage of the users that are estimated to be of local origin.

Discussions with trail associations and activity associations provided additional information that allowed us to augment the existing data and develop estimates that were reflective of the local and non-local usage that could reasonably be expected for each activity.

Given the nature of the trail and the relative proximity to Calgary, table 2 shows that there would be a slightly higher percentage of non-local bikers (30% non-locals, 70% locals) attracted to the trail for the base scenario than with the other 4 activity users. Hikers/walkers, horseback riders and snowmobilers were assumed to attract predominantly locals, generating only 20% non-local usage. A discussion with Cross-Country Alberta resulted in the conclusion that the trail would not attract non-local cross-country skiers given the alternative venues across Alberta where better cross-country ski conditions can be found.

The high scenario, as seen on table 3, has increased non-local usage as a result of additional marketing and promotion, and creating the right business and service mix. In our analysis, a lower local user percentage (i.e., smaller percentage of locals and a higher percentage of non-locals) results in more non-local users. We have therefore adjusted the local user percentage downward by 10% for bikers (to 60% local and 40% non-local) and by 5% for all other activities. Given the nature of the trail, we believed that there will be more non-local bikers attracted as a result of the increased promotion and amenities than any other type of user.



Applying the local user percentage to the local user figure allows us to derive the total estimated number of users, which can then be used to derive the total estimated number of non-local users.

### *Growth Rates*

The use of growth rates is necessary to bring our analysis to the steady state year of 2010, which is the date established by the Study Team in order to allow for the trail to be developed, marketed and “absorbed” into the tourism and recreation plans of users. Applying the growth rates to the user estimates allows us to determine the estimated number of users in 2010. Growth rates were derived from an analysis of previous studies, the Canada Fitness and Lifestyle Research Institute and a historical analysis of participation growth rates in Alberta from 1981 to 1996. The local biking growth rate is slightly negative, as a result of the decline in the biking participation rate for smaller communities over the past decade. Other activities, both local and non-local, exhibit an increase in participation.

### *Percentage Day/Overnight Users*

Previous studies provided an indication of the percentage split between day and overnight users. For the purposes of this analysis, we needed to distinguish between day and overnight users, as their expenditures differ significantly. Applying the estimated percentage of day and overnight users to the total number of estimated users at 2010, we can derive the total estimated number of day and overnight users by origin. As can be seen in tables 2.1 through 2.5 in **Appendix 2** for the base scenario and tables 3.1 through 3.5 in **Appendix 3** for the high scenario, the percentage split differs depending upon the activity, however the percentage of day users is always higher than the overnight users. This finding was consistent across prior studies.

Discussions with activity associations and tourism operators provided additional insight to the day and overnight splits, and augmented our information with a more locally based perspective. The day and overnight user split reflects factors such as the nature of the activity, the attractiveness of the trail, the amenities provided (i.e., accommodation) and the alternative trip options.

### *Frequency Factor*

The frequency factor, as seen in tables 2.1 through 2.5 and 3.1 through 3.5 of the respective appendices, generates the number of user days when applied to the number of users. The user day estimate is a figure that reflects the total number of users, the number of times they use the trail in a year and the length of trail use (in days). Inherent in the frequency factor is the length of season for each of the five activities.

Certain frequency data existed, however data for activities such as hiking and cross-country skiing, data did not exist. Therefore, data from other studies, discussions with relevant associations and reasonable assumptions of activity levels were applied to reach estimates of use frequency.

The frequency factor will differ depending upon the origin of the visitor and the nature of the trip. Overnight visitors will spend longer periods of time on the trail, however they may not make as many trips as day users, resulting in a lower frequency factor than day users. Applying the frequency factor to the day/overnight local and non-local users generates the total estimated user days for the trail by activity.

### *Total Users and Benchmark Verification*

The various factors discussed above were incorporated into a model, resulting in estimates for the total usage of the trail. These estimates were broken down by origin of user (i.e., local or non-local) and by type of trip (i.e., day or overnight). Tables 2.6 and 3.6 in each of the respective appendices outline the base and high scenario user summaries respectively, providing an estimate of the total user days by user type and origin once the trail has been opened and promoted to users.

PwC benchmarked the trail usage estimates developed in this study, to other trails to ensure that they were reasonable. A standard measure derived from the benchmarking process is the number of users per kilometre per day. Table 2.13 in **Appendix 2** and table 3.13 in **Appendix 3** outline the comparable trails that have been used in the benchmark exercise.

As can be seen by these tables, the study section of trail falls in the mid to lower range of the benchmark trails with respect to users per kilometre per day. This reflects the length of the

trail, its rural setting and the smaller population surrounding the study trail as compared to some of the other benchmark trails.

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## **Study Limitations**

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The data used in the analyses were gathered from sources such as activity associations, existing trail studies and reports, Statistics Canada, the Canadian Fitness and Lifestyle Research Institute and Alberta Community Development.

However, very little direct Trans Canada Trail data existed for the development of our trail usage estimates. The large majority of the trail studies are based on existing trails where users could be interviewed. The study section of trail is not yet developed. As a result, there are no users that could be interviewed in order to derive usage estimates.

In order to develop our usage figures, we made estimates based on other trail study usage data, data from Statistics Canada, discussions with activity association representatives and our experience in the tourism industry in Alberta. Additionally, we had to make assumptions based on the quality of trail development, and the usage implications of trail user preferences and characteristics.

Another unknown in the estimation process was the level of support, resources and acceptance that the trail would receive by the steady state year of 2010. At present, the sources of the one-time and annual funding that will be required to construct and operate the trail are unknown. The ability to adequately secure this funding may impact the development and therefore usage of the trail.

To our knowledge, no marketing or promotional plan has been developed to attract non-local users. As a result, we do not have a full appreciation for how the marketing efforts will be carried out. This was an impetus for the use of the base and high scenarios.

Ongoing resources to maintain and operate the trail are also an unknown, therefore we assumed that there would be at least a minimum of annual trail maintenance and operations. Additionally, we assumed that the trail would be operated and marketed in a professional manner.

One of the important unknowns in the process of developing an economic impact estimate for a trail that does not yet exist is the level of support and acceptance it will receive from locals, communities and landowners. The level of support that the trail receives from communities and landowners can be a determinant of the usage. At the current time, there is little certainty over the degree of community support; however, experience with other trails demonstrates that over time local communities become supportive as concerns about vandalism and crime are not fulfilled. Economic impact can vary depending upon the extent to which communities support the trail initiative and encourage infrastructure in terms of accommodations, eating establishments and retail, and the amount of time between initial opposition and local support.

Given the points discussed above, the high level of uncertainty surrounding the trail's funding, support and promotion, and the extent to which assumptions and estimates were made, actual results may differ from the estimates in the model. It should be stressed that the results of an economic impact analysis are estimates based on an accounting framework that represents average parameter values of the underlying behavioural, structural and technical relationships of the economy. Thus, in evaluating these estimates, there should be some allowance for a margin of error to the extent that actual observations deviate from actual values.

Some additional limitations include:

- PwC does not take responsibility for errors or omissions to the input data that could not have been reasonably determined within the scope of the assignment.
- The impact results are generated using an input/output model that utilizes a number of assumptions relating to the model itself and to the data that makes it operational.

### 3. Trail Opportunities

Trails across North America have created numerous benefits and opportunities for the communities that they pass through. Businesses have typically developed in order to meet the needs of trail users. As will be discussed below, many other communities have benefited from trail development, through increases in business activity and by providing services to an increasing number of trail users.

In order to identify tourism opportunities, and to recognize the types of businesses, services and amenities that users will demand, it is important to also acknowledge the preferences and characteristics of trail users. Gaining an understanding of these preferences and characteristics will assist trail operators in encouraging businesses and services to develop along the trail and in the adjacent communities that are targeted to the specific users of the trail. Below we outline some of the user preferences and characteristics, as well as some tourism development opportunities.

Additionally, in order to achieve the high scenario, the Alberta Government and the Trans Canada Trail Foundation will have to actively work at promoting the trail, and ensure that the communities encourage the development of businesses and services that users will demand. Some of the potential tourism development, and promotional and marketing efforts that may help achieve the high scenario are discussed below.

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#### **General Experiences in Other Jurisdictions**

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Previous studies provide an indication of the overall economic benefit and growth of businesses that trails can bring to a community or communities. The experiences of other jurisdictions provides insight as to what the study communities could reasonably expect should the trail be marketed and promoted actively, and businesses and amenities are established to support the users.

## Direct Expenditures

The following table indicates some of the total direct expenditures that were realized as a result of other trails across North America. As can be seen by the table, there is a significant difference between expenditures. This is a result of trail length, surrounding population and location.

**Table 1 - Comparative Trail Expenditures**

Trail	Total Expenditures (CDN \$)	Distance (km)	Expenditure per Km
Bruce Trail, Ontario	\$4,400,000	1,090	\$4,036
Northern Central Rail Trail, Maryland	\$2,180,000	32	\$68,125
Heritage Trail, Iowa	\$1,740,000	42	\$41,430
Allegheny Trail, Pennsylvania and Maryland	\$20,400,000	320	\$63,750
Little Miami Scenic Trail, Ohio	\$3,480,000	100	\$34,800
Study Section of Trail	\$6,785,000 (base scenario)	324	\$20,940

SOURCE: PricewaterhouseCoopers LLP

These figures indicate how beneficial trails can be to local economies.

## Landowner Perceptions

Another issue regarding trails is the initial perception of negative impacts on private land, such as trespassing, vandalism, other crime and reduced property values. Many trail user studies have included an adjacent landowner survey component to understand their beliefs about the trail after it has had time to be fully developed and marketed.

A study submitted to Alberta TrailNet, entitled Two Successful Rural Trails, surveyed adjacent landowners to the Iron Horse and Western Irrigation District Canal pathways before and after their development. Landowners adjacent the Iron Horse trail indicated that "...the trail benefited the community, especially urban residents with snowmobiles." Landowners around both trails commented that none of the initial trail concerns had materialized.

A well known study by the US National Park Service entitled The Impacts of Rail Trails: A Study of Users and Nearby Property Owners from Three Trails (1992), indicates that:

- "The majority of owners reported that there had been no increase in problems since the trails had been established;"
- "Living near the trails was better than (the landowners) had expected it to be;" and that
- "Living near the trails was better than living near the unused railroad lines."

These studies, and many others, demonstrate that while there is typically strong initial opposition to trail development based on perceptions of what may happen, very few, if any, of the negative impacts actually occur once the trail has been developed and is operational for a period of time. In fact, most surveyed landowners are happy with the existence of the trail and feel that it is better than pre-trail development. In addition, trails bring expenditures to local economies.

### **General Business and Economic Benefits**

- The Economic Impact Study for the Allegheny Trail Alliance (1999) found that trail business accounts for more than 10% of annual receipts for a third of the business respondents in the region, and that approximately half of all businesses in the area have plans to expand their business as a result.
- A report done by the US National Park Service, Rivers, Trails and Conservation Division (1995) indicates that for the community of Yakima, Washington, the development of the Yakima Greenway spurred many business changes. A local hotel indicates that their year-round occupancy is a result of its proximity to the trail. The report also suggests that local sporting goods stores have begun to offer new products, services and rentals to serve the

users of the trail.

- The Birkebeiner Cross-Country Ski Festival, a cross-country ski loppet held each year at the Blackfoot Recreational Area east of Edmonton, Alberta, generated an annual benefit of approximately \$171,000 in expenditures for local businesses.

This demonstrates the upside potential that might be derived from the development and marketing of special events and relays for any number of the trail activities.

- The Minuteman Trail, near Boston has created strong activity for local businesses. A local bike shop served roughly 1,800 in one afternoon as a result of increased traffic due to the trail. The trail is also credited for serving 200 more people a week at a local ice cream shop.
- The Heritage Trail, a trail in Iowa similar to the study section of trail, reports that areas near communities typically receive 10 times the usage and activity levels of the more rural areas. This reinforces the opportunities for local communities to capture the expenditures of trail users by encouraging and developing the appropriate tourism and activity infrastructure.
- Managers of the Little Miami Scenic Trail in Ohio indicate that when the development of a new trail section is announced, potential business owners are “lined up” to get the chance to set up their business on or near the trail.
- According to the Kentucky Rails to Trails Council, the downtown area of Dunedin, Florida suffered a 35% storefront vacancy rate in the early 1990’s until the development of a 550 kilometre rail trail, now the Pinellas Trail, brought additional visitors to the area. Now, storefront occupancy is 100%.
- The Elroy-Sparta State Park Trail in Wisconsin is credited with high hotel occupancy in peak seasons. The Kentucky Rails to Trails Council states that local hotels are booked a year in advance during peak seasons, with the average visitor travelling over 350 kilometres to use the trail.



The examples above suggest that with appropriate marketing and promotions, similar levels of business activity could be expected for communities along the study section of trail. Rail trails have helped to revitalize many communities, and have attracted important tourism expenditures for local businesses. By developing the right businesses, services and amenities, communities have a better chance of attracting non-local users to the area and encouraging them to spend money in the local economy.

In order to develop the right mix of businesses, services and amenities, it is important to gain an understanding of the trail user preferences and characteristics. These are discussed in the section below.

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## **Trail User Preferences and Characteristics**

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During the course of our research, we interviewed associations for each of the five primary activities in order to understand the characteristics of the “average” user. This provided insight as to the ways in which the trail may be used, by whom and what types of services and amenities the different users may demand. However, the results of these interviews are not meant to represent a statistically valid sample, but to provide insight into the general preferences of users.

It is also important to understand that users will evaluate their decision to visit a trail or region based on a number of factors, however, one of the key factors is the mix of services and amenities available to them. The preferences and characteristics outlined below should be used as guidance for tourism development opportunities.

### **Hikers/Walkers**

- For a trail of this distance, most hikers/walkers will be day-trippers. Many of the distances between towns along the study section of trail would be too far to cover on an average day’s walk.
- Hikers/walkers typically stay in tents or lower cost accommodations.

## **Bikers**

- Bikers typically spend larger amounts of money than hikers or cross-country skiers, preferring to stay in higher quality accommodations such as bed & breakfasts or hotels rather than tents or hostels. As a result, they typically have higher daily expenditures than hikers or cross-country skiers.
- Bikers spending overnight trips want to ensure that their bikes are safe in a secured overnight storage area.
- Bike repair services can assist users should service be required on their bike or any products be needed for the trip.
- Many bikers are now preferring “spoke and hub” tours, where they establish a “home base” at a bed & breakfast or hotel, taking day trips out on the surrounding trails. Fewer bikers are travelling with panniers or packs to stay overnight at different locations, as this, on average, reduces the quality of the ride. Areas that can offer the spoke and hub type of travel will be viewed more favourably by non-local bikers.

The “spoke and hub” tours offer an opportunity for the towns and local communities to cater their accommodations to this type of tourism and activity usage.

## **Horseback Riders**

- Alberta has the largest horse population in all of Canada, estimated at approximately 400,000 horses.
- Roughly 70% of owners are involved in recreational trail riding (approximately 280,000 horses).
- Horseback riders typically have trouble with multi-purpose trails because of use conflicts with other users. Riders now prefer to ride on recreational reserves, and less on the multi-purpose trails. When riding on trails, horseback riders try to ride on designated horse trails to minimize the levels of conflict.

- Horseback riders typically use tents or campers for accommodation during overnight trips, relying less on commercial accommodations. This is a result of a lack of services and establishments to care for the horses during overnight stays.
- The Alberta Equestrian Federation indicates that the large majority of non-local users tend to take day trips as opposed to overnight trips.
- Tourism attractions, accommodations, restaurants, retail establishments and other businesses that attempt to attract horseback riders will need to address the access issue for these users. Secured and safe access to a given location from the trail will be important in drawing horseback riders. Additionally, establishments offering overnight horse accommodations, where the horse can get food and water, will be crucial in attracting and encouraging horseback riders.

### **Snowmobilers**

- Overnight snowmobilers tend to prefer the same “spoke and hub” types of trips as the bikers. Snowmobilers prefer to make one location their “home base” and spend a few days touring the trails around the area. Hotels and bed & breakfasts are the preferred accommodations for snowmobilers.
- Snowmobilers are typically one of the larger spending users in the study. According to the Alberta Snowmobile Association, snowmobilers typically prefer to stay in high quality accommodations where they can enjoy fine meals, hot tubs and a comfortable rest after a day of snowmobiling.
- Many touring snowmobilers ride into the communities with no truck support and are carrying little more than essential gear. Therefore, they look to spend larger amounts of money in local communities on accommodation, food, and entertainment.
- When destination snowmobiling, snowmobilers are looking for destinations where snowmobile access is not a problem. Areas that provide easy access, gas stops and restaurants will be viewed more favourably by snowmobile users.

- Security of snowmobiles is a major concern for users. Hotels, restaurants and other businesses would need to address the issue of snowmobile security and parking in order to attract this type of user for overnight trips.
- Snowmobile maintenance and repair is also important for overnight snowmobilers. The ability to have a sled repaired or serviced at a local repair shop during an afternoon or overnight stay could assist the area in drawing more non-local overnight snowmobilers.
- The Alberta Snowmobile Association indicates that many snowmobilers who enjoy a location during a winter visit, will return for a summer holiday.
- For longer distance alternatives, the Trans Canada Snowmobile Trail is likely to attract more non-local users than the Trans Canada Trail due to its location and more consistent conditions. However, the Trans Canada Trail and the Trans Canada Snowmobile Trail will have a critical link through the trail north of Stettler, opening potential cross-usage opportunities.

### **Cross-Country Skiers**

- According to Cross-country Alberta, skiers prefer trackset areas of Peter Lougheed park, Canmore Nordic Centre, Strathcona Wilderness centre and the myriad of locally groomed and maintained trails. Skiing along untracked, exposed areas is not a popular option for the cross-country skiers.
- Backcountry skiers typically prefer a mountain experience, while many advanced skiers look for telemark opportunities that are not available on the study section of trail.

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## **Tourism Development Opportunities**

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In order to realize significant trail usage and achieve the high scenario, the right products and services will have to be offered to trail users, and a significant amount of trail marketing and promotion will need to be done.

The development of the Trans Canada Trail in Alberta provides unique opportunities for the development and enhancement of tourism products and services in the regions and municipalities surrounding the Trail.

Research has shown that complementary tourism products and services typically develop as a result of recreational trails. Many of the examples that were discussed in the section above entitled “General Experiences in Other Jurisdictions”, show that retail and services such as sporting goods, equipment rentals, outfitting and guiding, equipment repair, and food and beverage are required to attract users to a section of trail. Without such development, economic impact in a region will be minimal as a result of the limited opportunities for expenditure. One key factor to increasing economic impact is to provide maximum opportunity for trail users to make expenditures.

An initial review of the tourism products and services found along the portion of the Trans Canada Trail under study shows that there could be opportunities to either enhance or add to the current infrastructure base.

The development of the trail will bring additional visitors to the region, however only by offering the appropriate product and service mix will expenditure opportunities be maximized and the economic impact reach the high scenario. Our initial examination of the market and understanding of key tourism industry trends suggests the following potential trail development opportunities:

- Additional Bed & Breakfasts, Bale and Breakfasts, campgrounds and motels either directly along the trail or in near-by communities. This type of development would accommodate users who wish to do an extended tour along the trail. These facilities should address the issues raised above with respect to the types of amenities desired by certain users (i.e., horse barns, snowmobile storage, bike lockers etc.).
- Retail opportunities for equipment sales, rental, repair, supplies, food and beverage and trail related merchandise.
- Guiding and outfitting opportunities such as organized bike tours, river excursions along the Red Deer River in conjunction with a mountain bike ride along the trail, fly fishing and

guided nature/flora and fauna walking tours in areas surrounding Drumheller.

- Interpretative signage indicating areas of natural/historical interest.
- Picnic areas/lunch stops and restrooms.
- Other recreational/leisure opportunities such as golf course development.
- Special events such as relays, races and festivals could be held along sections of the trail. These could incorporate any of the five primary activities (i.e., walking/hiking/running, biking, horseback riding, snowmobiling and cross-country skiing). These events will be important in establishing community support, interaction and sponsorship for the trail and its initiatives. One-time economic benefits can also be realized as a result of the special events, which can also serve to increase awareness and ultimately usage of the trail.

Additionally, partnering with some of the tourism products already in the region should be achieved prior to the trail opening. For example, The Tyrell Museum could offer a one-day museum pass together with an interpretive hike along a 10-kilometer portion of the trail. The East Central Alberta Heritage Society could offer trail packages in conjunction with the Prairie Steam train tours, where trail riders could pack their bikes, horses or snowmobiles onto the train for the trip and then continue on after the tour or stay overnight and enjoy a ride along the trail the next day.

Local hotels, tourism bureaus, local museums and businesses could all play a part in promoting the trail and enhancing visitation to the region. This will only be achieved if a coordinated approach to managing and marketing the trail by local communities/chambers of commerce, Alberta TrailNet, the Provincial Government and the Trans Canada Trail Foundation is undertaken.

Further study of the possible tourism opportunities along the trail should be undertaken after the trail is operational. One suggestion is to track and monitor trail usage over the first year and then conduct an intercept survey with trail users to determine the types of products and services being demanded by users that may be lacking in the region.

Reaching the high scenario of our analysis will require a focused marketing and tourism attraction strategy. Other studies have indicated the importance of marketing and promotions

in increasing the economic benefits that can be realized through trail development. A recent study, entitled A Survey of Nova Scotia Hiking Trail Users (1999), provides significant discussion on the necessity of marketing to increase economic benefits.

Although this study does not include the mandate of identifying specific marketing strategies, certain elements that should be included in a marketing and attraction strategy include:

- Advertisements in magazines, travel brochures and other publications that are likely to reach the target market;
- Pamphlets that can be circulated in local tourism offices, chambers of commerce, mail-out packages and hotels;
- Map books and guide books that can be purchased ahead of time by potential users;
- A strong Internet presence with trail descriptions, activities, maps and links to accommodation sites; and,
- Strong trail signage indicating access to the trail, attractions, rest areas and directional signage once on the trail.

These marketing and promotion efforts should correspond with, and be undertaken in conjunction with, local tourism and economic development offices or initiatives. This will help to broaden the scope of the attraction efforts and assist in increasing the awareness of the trail to a larger audience.

The combination of strong marketing and promotional efforts, and the right mix of products and services, will assist in reaching the high scenario of economic impacts.

## 4. The Results of Economic Impact Modelling

The presentation of results is organised as follows:

- The economic impact of Trail user expenditures on the province and the region;
- The economic impact of the maintenance expenditures; and,
- The economic impacts of construction and development expenditures associated with the Trail.

The impacts of user expenditures and construction impacts are not additive, but the impacts of maintenance and users' expenditures can be added to define *recurrent* or ongoing, annual impacts. The recurrent impacts are expected to be realized each year of operation. On the other hand, the construction expenditures are one time impacts during the construction of the trail. The impacts of the recurrent expenditures are considered sustainable, whereas the impacts of the construction expenditures are considered temporary.

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### **The Economic Impact of Trail Users' Expenditures**

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Under the base scenario, by 2010 approximately 37,000 persons per year are expected to use the study portion of the Trans Canada Trail in Alberta, generating an estimated 435,800 user days each year, as seen in Table 2.6 of **Appendix 2**. The high scenario estimates the study section of Trail could see approximately 42,000 users per year by 2010, generating an estimated 445,800 user days each year, as indicated in Table 3.6 of **Appendix 3**.

It is important here to differentiate between total persons using the trail and user days. Total persons using the trail indicates that there will be, throughout the year, a certain number of *individuals* using some portion of the trail. It does not suggest that this number of people will use the entire length of the trail. In fact, usage will likely be more concentrated around the larger centres. The user days is the total number of persons using the trail multiplied by the number of times they use the trail. Again, this number of user days will not occur along the entire length of trail, but scattered throughout.



In addition to attracting more non-local trail users, the high scenario also resulted in increased expenditures due to the assumed existence of additional tourism and retail establishments, which would be the result of efforts and encouragement from local communities to provide the right business and service mix to trail users.

Trail users will come from many locations; some will stay for a short while, others for a longer period of time. Users will spend differently, but significantly, on food and beverage, accommodation, souvenirs and transportation. Their total gross expenditures by 2010, in the base scenario will amount to \$6.785 million and will exceed \$8.3 million in the high scenario, as seen by table 2.12 in **Appendix 2** and table 3.12 in **Appendix 3**.

Not all of these expenditures can be legitimately considered new or incremental. In a strict sense only the impacts of non-local users can be considered totally incremental. Nonetheless, the economic impacts associated with total users' expenditures define the overall impacts of the Trail on the Alberta and regional economies.

In the base scenario, as detailed in Table 1:

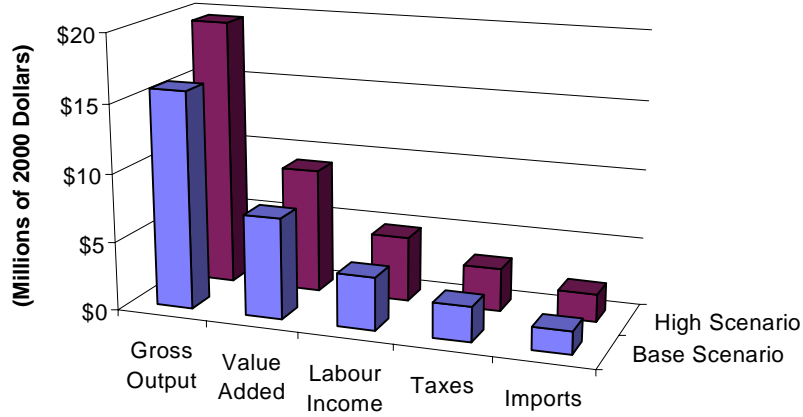
- A total of **160 person years (full time equivalents) of employment** are likely to be sustained by the users' expenditures in the province as a whole, **of which about 108 person years will originate in the region;**
- A total of **\$7.4 million in value added (income) in the province and \$3.2 million in the region** will be sustained each year; and,
- The three levels of government are expected to receive annual flows of **tax revenue of about \$2.5 million** annually. The Federal Government will collect the largest portion, which may exceed \$1.4 million. The **provincial government's share is put at over \$750,000 and local Alberta governments at \$369,000. Local governments in the study region are expected to collect over \$220,000** in fees, business taxes and capitalised property taxes on the base scenario users' expenditure impacts.

**Table 1**  
**Economic Impact of Expenditures of Users**  
**of the Trans-Canada Trail**  
**Provincial and Regional Impacts**  
(In 2000 Dollars)

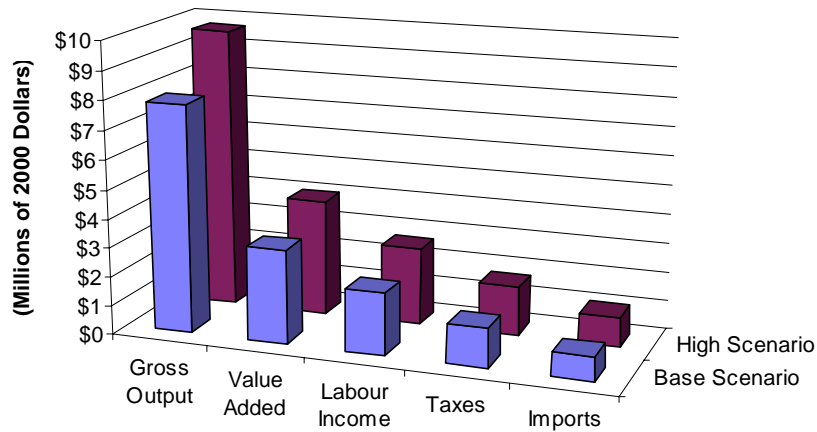
	Base Scenario		High Scenario	
	Alberta	Regional	Alberta	Regional
<b>Impacts</b>				
<i>Initial Expenditures</i>	\$6,785,000	\$6,785,000	\$8,356,200	\$8,356,200
<i>Gross Output</i>				
Direct	\$6,785,000	\$6,785,000	\$8,356,200	\$8,356,200
Indirect & Induced	\$9,081,980	\$1,062,863	\$11,185,293	\$1,347,994
Total	\$15,866,980	\$7,847,863	\$19,541,493	\$9,704,194
Multiplier	2.34	1.16	2.34	1.16
<i>Value Added</i>				
Direct	\$2,707,276	\$2,707,276	\$3,338,605	\$3,338,605
Indirect & Induced	\$4,656,841	\$525,832	\$5,733,839	\$655,118
Total	\$7,364,117	\$3,233,108	\$9,072,444	\$3,993,723
Multiplier	1.09	0.48	1.09	0.48
<i>Employment (person yrs)</i>				
Direct	81.3	81.3	100.5	100.5
Indirect & Induced	78.4	26.2	96.6	32.3
Total	159.7	107.5	197.1	132.8
Multiplier	1.96	1.32	1.96	1.32
<i>Labour Income</i>				
Direct	\$1,658,236	\$1,658,236	\$2,046,864	\$2,046,864
Indirect & Induced	\$2,180,100	\$494,043	\$2,686,016	\$612,504
Total	\$3,838,336	\$2,152,279	\$4,732,880	\$2,659,368
<i>Taxes</i>				
Federal	\$1,415,502	\$745,703	\$1,744,710	\$921,329
Provincial	\$758,334	\$399,064	\$937,924	\$495,880
Local	\$368,802	\$222,304	\$455,070	\$274,820
Total	\$2,542,638	\$1,367,071	\$3,137,704	\$1,692,029
<i>Imports</i>				
From Other Provinces	\$997,744	\$530,916	\$1,230,100	\$655,901
From Other Countries	\$647,446	\$292,592	\$797,601	\$361,299
Total	\$1,645,190	\$823,508	\$2,027,701	\$1,017,200

Source: Econometric Research Limited and PricewaterhouseCoopers LLP

**Figure 1**  
**Comparative Provincial Economic Impacts**  
**of the Expenditures of Users of the Trans-Canada Trail**



**Figure 2**  
**Comparative Regional Economic Impacts**  
**of the Expenditures of User of the Trans-Canada Trail**



Figures 1 and 2 above present the comparative structures of the various impact measures.

Tables 2 and 3 below present the tax collection data by the three levels of government and by type of tax for both scenarios on a province-wide and regional basis respectively. Personal income taxes and GST revenues dominate the tax collection impacts. There appears to be a strict share relationship among the tax revenues of the three levels of government, despite the fact that they collect different types of taxes. Figures 3 and 4 are graphical presentations of the data in tables 2 and 3.

**Table 2**

**Tax Impacts of Expenditures of Users of the Trans-Canada Trail  
Province Wide  
(In 2000 Dollars)**

<b>Base Scenario</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$678,149	\$340,092		\$1,018,241
Indirect Business Taxes		\$212,812		\$212,812
G.S.T.	\$422,508			\$422,508
Corporate Profit Taxes	\$139,840	\$98,389		\$238,229
Property & Business Taxes			\$368,802	\$368,802
Tobacco & Liquor Tax		\$58,419		\$58,419
Room Tax		\$7,905		\$7,905
Employment Insurance	\$175,005			\$175,005
Workmans Compensation		\$40,717		\$40,717
<b>Total</b>	<b>\$1,415,502</b>	<b>\$758,334</b>	<b>\$368,802</b>	<b>\$2,542,638</b>
<b>High Scenario</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$836,193	\$419,352		\$1,255,545
Indirect Business Taxes		\$262,521		\$262,521
G.S.T.	\$520,385			\$520,385
Corporate Profit Taxes	\$172,341	\$121,255		\$293,596
Property & Business Taxes			\$455,070	\$455,070
Tobacco & Liquor Tax		\$72,065		\$72,065
Room Tax		\$12,525		\$12,525
Employment Insurance	\$215,791			\$215,791
Workmans Compensation		\$50,206		\$50,206
<b>Total</b>	<b>\$1,744,710</b>	<b>\$937,924</b>	<b>\$455,070</b>	<b>\$3,137,704</b>

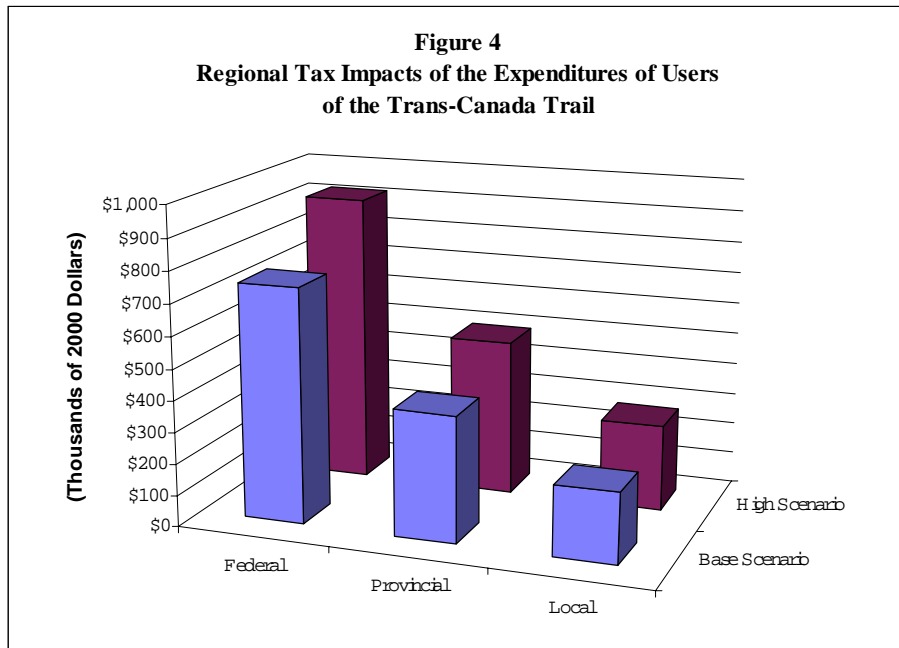
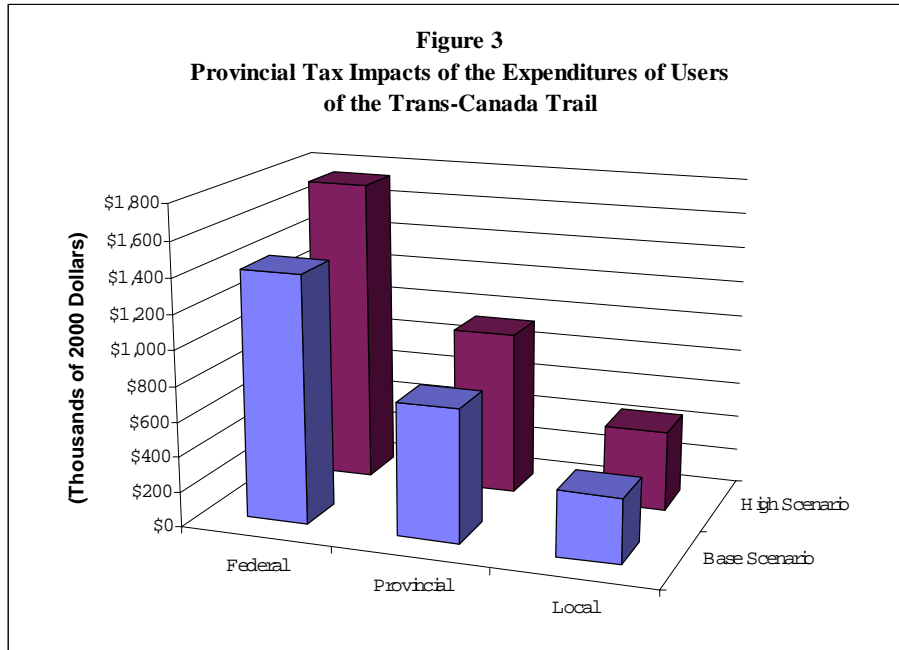
Source: Econometric Research Limited and PricewaterhouseCoopers LLP

**Table 3**

**Tax Impacts of Expenditures of Users of the Trans-Canada Trail**  
**Regional**  
(In 2000 Dollars)

<b>Base Scenario</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$380,259	\$190,701		\$570,960
Indirect Business Taxes		\$103,027		\$103,027
G.S.T.	\$201,481			\$201,481
Corporate Profit Taxes	\$65,832	\$46,318		\$112,150
Property & Business Taxes			\$222,304	\$222,304
Tobacco & Liquor Tax		\$28,282		\$28,282
Room Tax		\$7,905		\$7,905
Employment Insurance	\$98,131			\$98,131
Workmans Compensation		\$22,831		\$22,831
<b>Total</b>	<b>\$745,703</b>	<b>\$399,064</b>	<b>\$222,304</b>	<b>\$1,367,071</b>
<b>High Scenario</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$469,850	\$235,631		\$705,481
Indirect Business Taxes		\$127,325		\$127,325
G.S.T.	\$248,879			\$248,879
Corporate Profit Taxes	\$81,349	\$57,236		\$138,585
Property & Business Taxes			\$274,820	\$274,820
Tobacco & Liquor Tax		\$34,952		\$34,952
Room Tax		\$12,525		\$12,525
Employment Insurance	\$121,251			\$121,251
Workmans Compensation		\$28,211		\$28,211
<b>Total</b>	<b>\$921,329</b>	<b>\$495,880</b>	<b>\$274,820</b>	<b>\$1,692,029</b>

Source: Econometric Research Limited and PricewaterhouseCoopers LLP



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## The Operational Maintenance Impacts

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There are impacts that will be realized as a result of annual trail maintenance by 2010. Table 4 shows:

- A total of **\$633,450 will be spent yearly on maintaining the study section of Trail**. This expenditure will give rise to recurrent income, employment and tax impacts in the province and in the region.
- **A total of 10 jobs (full time equivalents) will be sustained yearly in Alberta by these expenditures, of which 3.5 will be in the region.**
- Alberta income will rise permanently in excess of \$650,000, whereas **income in the region will rise by over \$260,000 per year.**
- The total Federal government tax collections will rise by \$140,000 annually. Provincial government tax collections will rise by over \$68,000 and **local Alberta governments' tax collections will rise by over \$27,000. The local governments in the study region are expected to collect over \$12,000 per year** as a result of ongoing trail maintenance.

Tables 5 and 6 show the tax collection data by the three levels of government and by type of tax on a province-wide and regional basis respectively.

**Table 4**  
**Economic Impact of Expenditures of Maintenance**  
**Expenditures on the Trans-Canada Trail**  
**Provincial and Regional Impacts**  
(In 2000 Dollars)

	<b>Alberta</b>	<b>Regional</b>
<b>Impacts</b>		
<i>Initial Expenditures</i>	\$633,450	\$633,450
<i>Gross Output</i>		
Direct	\$633,450	\$633,450
Indirect & Induced	\$842,287	\$105,104
Total	\$1,475,737	\$738,554
Multiplier	2.33	1.17
<i>Value Added</i>		
Direct	\$213,550	\$213,550
Indirect & Induced	\$441,184	\$53,587
Total	\$654,734	\$267,137
Multiplier	1.03	0.42
<i>Employment (person yrs)</i>		
Direct	2.3	2.3
Indirect & Induced	7.7	1.2
Total	10.0	3.5
Multiplier	4.35	1.52
<i>Labour Income</i>		
Direct	\$176,287	\$176,287
Indirect & Induced	\$228,353	\$32,297
Total	\$404,640	\$208,584
<i>Taxes</i>		
Federal	\$140,749	\$69,402
Provincial	\$68,346	\$30,847
Local	\$27,869	\$12,578
Total	\$236,964	\$112,827
<i>Imports</i>		
From Other Provinces	\$102,535	\$57,148
From Other Countries	\$79,280	\$45,483
Total	\$181,815	\$102,631

Source: Econometric Research Limited and PricewaterhouseCoopers LLP



**Table 5**

**Tax Impacts of Maintenance Expenditures on the Trans-Canada Trail  
Provincial**  
(In 2000 Dollars)

	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$71,490	\$35,853		\$107,343
Indirect Business Taxes		\$15,227		\$15,227
G.S.T.	\$38,311			\$38,311
Corporate Profit Taxes	\$12,499	\$8,794		\$21,293
Property & Business Taxes			\$27,869	\$27,869
Tobacco & Liquor Tax		\$4,180		
Employment Insurance	\$18,449			
Workmans Compensation		\$4,292		\$4,292
<b>Total</b>	<b>\$140,749</b>	<b>\$68,346</b>	<b>\$27,869</b>	<b>\$236,964</b>

Source: Econometric Research Limited and PricewaterhouseCoopers LLP

**Table 6**

**Tax Impacts of Maintenance Expenditures on the Trans-Canada Trail  
Regional**  
(In 2000 Dollars)

	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$36,852	\$18,481		\$55,333
Indirect Business Taxes		\$4,816		\$4,816
G.S.T.	\$17,333			\$17,333
Corporate Profit Taxes	\$5,707	\$4,015		\$9,722
Property & Business Taxes			\$12,578	\$12,578
Tobacco & Liquor Tax		\$1,322		
Employment Insurance	\$9,510			
Workmans Compensation		\$2,213		\$2,213
<b>Total</b>	<b>\$69,402</b>	<b>\$30,847</b>	<b>\$12,578</b>	<b>\$112,827</b>

Source: Econometric Research Limited and PricewaterhouseCoopers LLP

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## The Total Sustainable Impacts

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Since the expenditures of the users of the Trail and those on maintenance occur yearly, so will their impacts in the region of the study section of trail. It is legitimate, therefore, to add these two impacts. They are typically referred to as the sustainable (recurrent) impacts.

Adding the impacts of maintenance to the base scenario user expenditure impacts yields the following recurring impacts:

- **170 Albertans** will owe their jobs to the study section of Trail's recurrent expenditures. **The permanent regional employment impact will result in 111 jobs;**
- Alberta's income will rise permanently by about \$8 million each year, of which **\$3.5 million will be the increase in regional income;** and,
- **Total recurrent tax collections will add to about** \$2.8 million annually for all levels of government, of which nearly \$250,000 per year will remain with local governments in the region.

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## The Construction Impacts

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The construction of this portion of the Trans Canada Trail in Alberta will cost approximately \$7.4 million as outlined in the construction budget in **Appendix 5**. As many people will volunteer for the construction of the trail and donate their labour (half of the labour costs are presumed to be offered by volunteers), the total construction costs driving the impacts are estimated at \$6.6 million. This number was derived using standard labour cost ratios.

Typically, labour costs in non-residential construction in Alberta represents 22.5% of the total construction cost. This parameter was used to scale the labour cost to 11.25% of total construction cost. We did not make the same adjustment for donated materials. These would have to be purchased or produced thereby causing the recirculation of expenditures to take place.

Netting the volunteers' contribution out, Table 7 shows that there are **one time impacts** of:

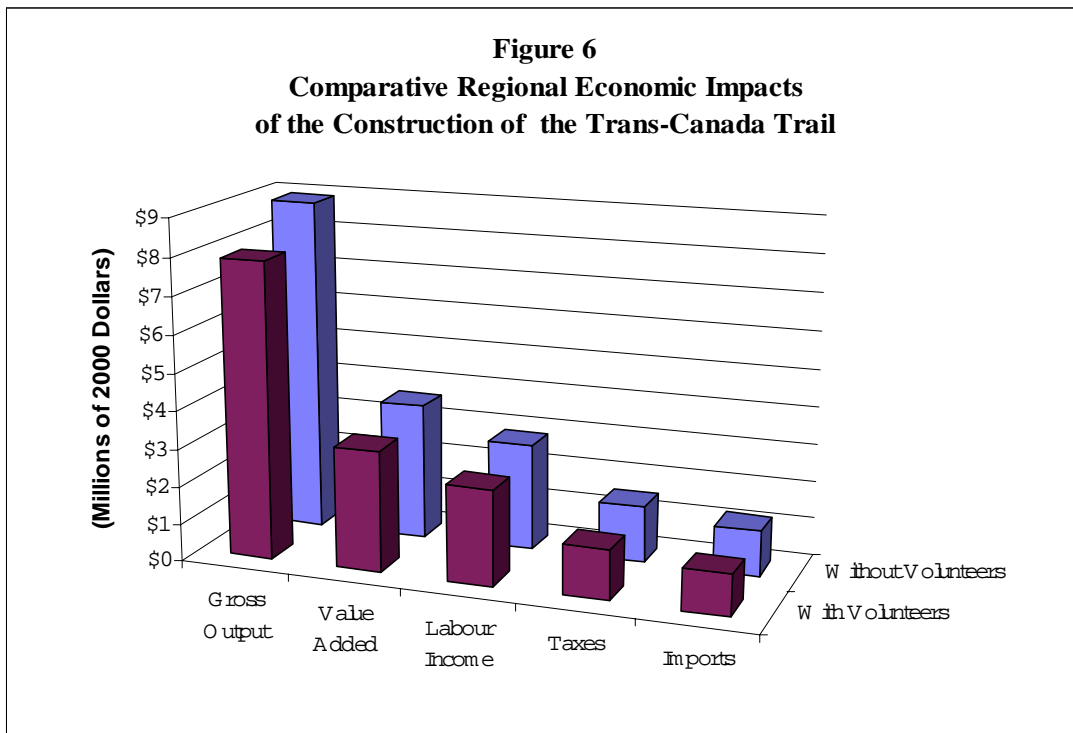
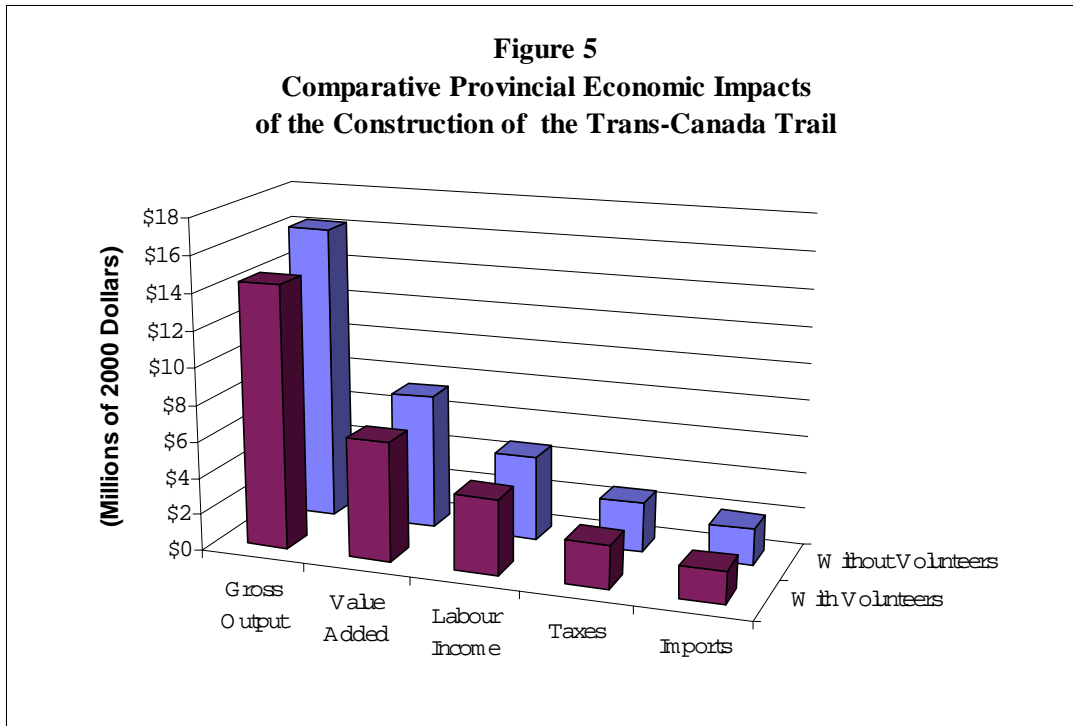
- **104 person years of total provincial employment, of which 51 person years will be sustained in the region;**
- **Value added impacts as high as \$6.6 million in Alberta and \$3.2 million in the region;** and,
- The three levels of government are expected to realize a combined tax flow of over \$2.3 million, with the Federal Government receiving the majority at \$1.4 million. **The Province of Alberta can expect to receive approximately \$680,000, while local governments in the study region could expect to receive over \$145,000 in taxes.**

Figures 5 and 6 show the comparative impacts that will be realized as a result of the construction of this proposed section of the Trans Canada Trail.

**Table 7**  
**Economic Impact of the Construction of the Trans-Canada Trail**  
**Provincial and Regional Impacts**  
(In 2000 Dollars)

Impacts	Without Volunteers		With Volunteers	
	Alberta	Regional	Alberta	Regional
<i>Initial Expenditures</i>	\$7,411,365	\$7,411,365	\$6,577,586	\$6,577,586
<i>Gross Output</i>				
Direct	\$7,411,365	\$7,411,365	\$6,577,586	\$6,577,586
Indirect & Induced	\$8,817,341	\$1,476,396	\$7,825,390	\$1,310,301
Total	\$16,228,706	\$8,887,761	\$14,402,977	\$7,887,888
Multiplier	2.19	1.20	2.19	1.20
<i>Value Added</i>				
Direct	\$1,545,604	\$1,545,604	\$1,371,724	\$1,371,724
Indirect & Induced	\$5,845,696	\$2,085,988	\$5,188,055	\$1,851,314
Total	\$7,391,300	\$3,631,592	\$6,559,779	\$3,223,038
Multiplier	1.00	0.49	1.00	0.49
<i>Employment (person yrs)</i>				
Direct	31.5	31.5	28.0	28.0
Indirect & Induced	86.1	26.0	76.4	23.1
Total	117.6	57.5	104.4	51.0
Multiplier	3.73	1.83	3.73	1.83
<i>Labour Income</i>				
Direct	\$2,102,333	\$2,102,333	\$1,865,821	\$1,865,821
Indirect & Induced	\$2,530,218	\$752,903	\$2,245,568	\$668,201
Total	\$4,632,551	\$2,855,236	\$4,111,389	\$2,534,022
<i>Taxes</i>				
Federal	\$1,602,099	\$947,261	\$1,421,863	\$840,694
Provincial	\$772,083	\$401,139	\$685,224	\$356,011
Local	\$314,828	\$163,570	\$279,410	\$145,168
Total	\$2,689,010	\$1,511,970	\$2,386,496	\$1,341,873
<i>Imports</i>				
From Other Provinces	\$1,131,426	\$685,775	\$1,004,141	\$608,625
From Other Countries	\$865,522	\$528,452	\$768,151	\$469,001
Total	\$1,996,948	\$1,214,227	\$1,772,291	\$1,077,626

Source: Econometric Research Limited and PricewaterhouseCoopers LLP



The results in Tables 8 and 9 show a similar pattern to that of Trail users' expenditure impacts with personal income taxes and GST revenues dominating other sources of government revenues. Local tax revenues generated by province wide impacts as well as those generated by the regional impacts are relatively high. Figures 7 and 8 present this information graphically.

**Table 8**  
**Tax Impacts of the Construction of the Trans-Canada Trail**  
**Province Wide**  
(In 2000 Dollars)

<b>Without Volunteers</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$818,467	\$410,462		\$1,228,929
Indirect Business Taxes		\$167,765		\$167,765
G.S.T.	\$432,187			\$432,187
Corporate Profit Taxes	\$140,228	\$98,661		\$238,889
Property & Business Taxes			\$314,828	\$314,828
Tobacco & Liquor Tax		\$46,053		
Employment Insurance	\$211,217			
Workmans Compensation		\$49,142		\$49,142
<b>Total</b>	<b>\$1,602,099</b>	<b>\$772,083</b>	<b>\$314,828</b>	<b>\$2,689,010</b>
<b>With Volunteers</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$726,389	\$364,285		\$1,090,674
Indirect Business Taxes		\$148,891		\$148,891
G.S.T.	\$383,566			\$383,566
Corporate Profit Taxes	\$124,452	\$87,562		\$212,014
Property & Business Taxes			\$279,410	\$279,410
Tobacco & Liquor Tax		\$40,872		
Employment Insurance	\$187,455			
Workmans Compensation		\$43,614		\$43,614
<b>Total</b>	<b>\$1,421,863</b>	<b>\$685,224</b>	<b>\$279,410</b>	<b>\$2,386,496</b>

Source: Econometric Research Limited and PricewaterhouseCoopers LLP

**Table 9**

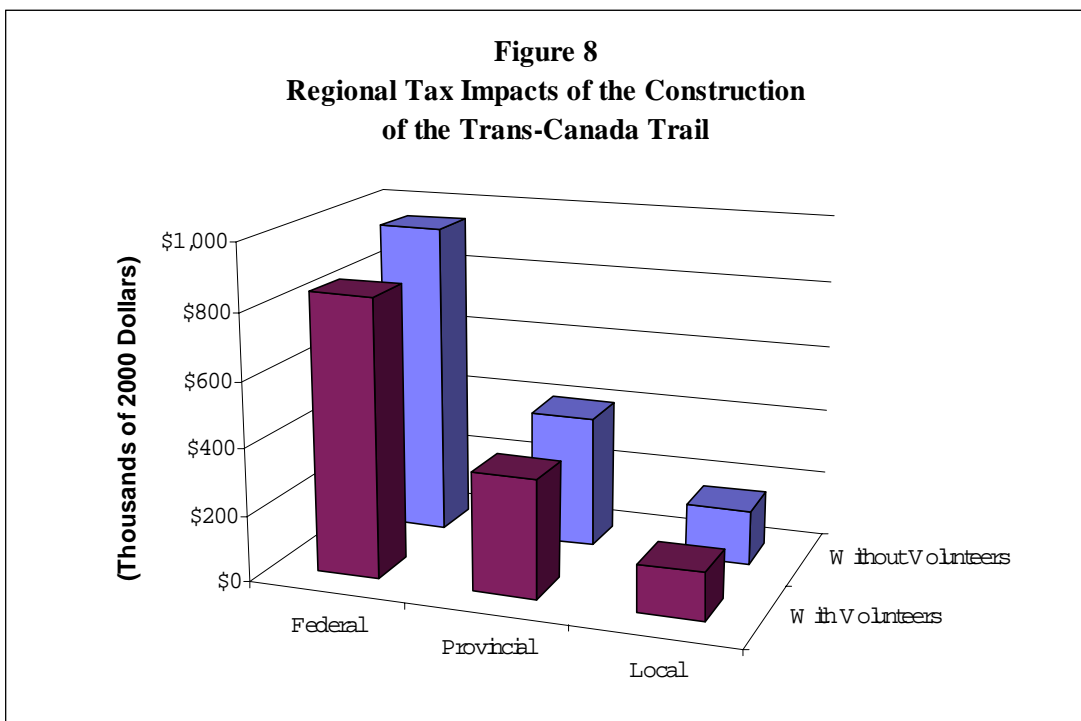
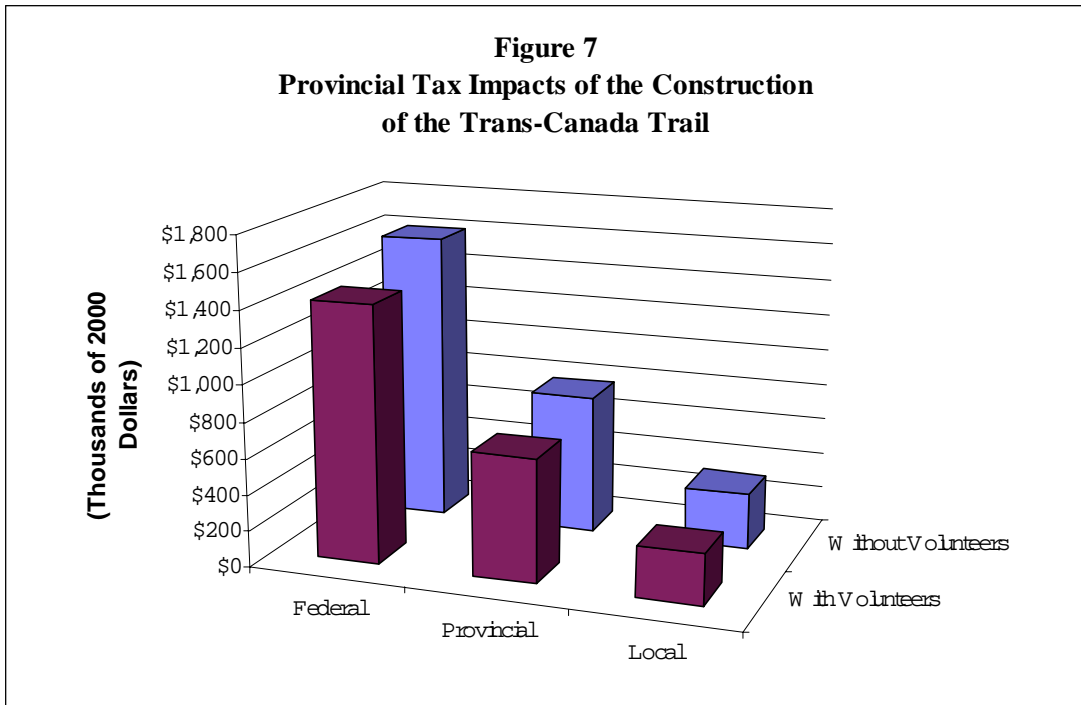
**Tax Impacts of the Construction of the Trans-Canada Trail**

**Regional**

(In 2000 Dollars)

<b>Without Volunteers</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$504,456	\$252,985		\$757,441
Indirect Business Taxes		\$51,750		\$51,750
G.S.T.	\$238,843			\$238,843
Corporate Profit Taxes	\$73,780	\$51,910		\$125,690
Property & Business Taxes			\$163,570	\$163,570
Tobacco & Liquor Tax		\$14,206		
Employment Insurance	\$130,182			
Workmans Compensation		\$30,288		\$30,288
<b>Total</b>	<b>\$947,261</b>	<b>\$401,139</b>	<b>\$163,570</b>	<b>\$1,511,970</b>
<b>With Volunteers</b>	<b>Federal</b>	<b>Provincial</b>	<b>Local</b>	<b>Total</b>
Personal Income Taxes	\$447,705	\$224,524		\$672,229
Indirect Business Taxes		\$45,928		\$45,928
G.S.T.	\$211,973			\$211,973
Corporate Profit Taxes	\$65,480	\$46,070		\$111,550
Property & Business Taxes			\$145,168	\$145,168
Tobacco & Liquor Tax		\$12,608		
Employment Insurance	\$115,537			
Workmans Compensation		\$26,881		\$26,881
<b>Total</b>	<b>\$840,694</b>	<b>\$356,011</b>	<b>\$145,168</b>	<b>\$1,341,873</b>

Source: Econometric Research Limited and PricewaterhouseCoopers LLP





## 5. Conclusions

Alberta and the region defined by the proposed Trail are both shown to derive significant and real economic impacts. Employment and income impacts are particularly high with relatively large multipliers.

The construction impacts are not recurrent but make a one time large impact on the province and the region. The income impacts of the construction activity fall short of those associated with Trail users' expenditures, but its employment multiplier is substantially higher than that of the users' expenditures.

It is interesting to note that the overall magnitudes of the construction and the recurrent expenditures are almost equivalent. But there are substantial differences in the duration and composition of their impacts. It is invariably the case that the direct impacts of construction are substantially below the corresponding impacts of the recurrent expenditures. It is also to be noted that the tax collected on the impacts of construction, even with volunteers, exceeds that of users' expenditures. But it must be remembered that construction impacts are temporary whereas the recurrent expenditures' impacts are permanent.

This study also indicates the importance of marketing, promotion and attraction efforts in order to achieve significant economic impacts. Additionally, communities will need to work together to encourage the development of the infrastructure, businesses and services required by trail users. There are significant opportunities to be realized and many ongoing economic benefits can occur as a result of a well established, well marketed and well supported Trans Canada Trail network in Alberta.