The Economic Impact of Comox Valley Airport and the Regional Tourism Industry 2007 Update

strategic
transportation
& tourism
solutions

Prepared for
Comox Valley Airport Commission

Prepared by
Inter*VISTAS* Consulting Inc.

August 2007

Executive Summary

On-going operations at Comox Valley Airport (YQQ) and the region's tourism industry make considerable contributions to local employment, as well as the provincial and national economies.

This study found that ongoing airport and tourism operations in Comox Valley Airport's Catchment Area (ACA), which includes all communities north of the Malahat, support 11,300 *direct* jobs in the region, representing 9,100 direct person years of employment.[1]

On-going operations at YQQ businesses and the regional tourism industry generate:

- *11,300 direct jobs representing 9,100 person years of employment*
- *$237 million in wages*

Furthermore, the study found that employment at YQQ has increased dramatically in the last few years, effectively doubling since 2003. Direct employment at YQQ was found to be 162 person years (193 jobs), an increase of 103% since 2003, when the previous economic impact study was conducted (based on the growth in person years).[2] Tourism employment has also increased from 10,000 jobs or 7,600 person years in 2003 to 11,100 jobs or 8,900 person years presently, an increase of 12% based on person years.

In round numbers, the *direct* economic impact of this employment on the British Columbia economy is estimated at:

- $367 million in gross domestic product (GDP);
- $701 million in economic output; and
- $237 million in wages.

Including indirect and induced effects, and in round numbers, the total provincial impacts of on-going operations at businesses related to the Comox Valley Airport catchment area and regional tourism are:

- 12,100 person years of employment, representing nearly 15,100 jobs;
- $571 million in GDP;
- $1.2 billion in economic output; and
- $316 million in wages.

[1] A full-time position for one year constitutes a person year of employment (also known as a full-time equivalent). As some jobs are part-time or seasonal, these jobs have been converted to person years.

[2] The number of jobs increased 84% from 2003. This indicates that the growth in employment is the result of additional hours of work for existing staff as well as the creation of new employment positions.

The in-province economic impacts of on-going operations within the Comox ACA business community are summarised in Figure ES-1, Figure ES-2, and Figure ES-3.

Figure ES-1: Comox Valley Airport *On-Going* Economic Impacts in British Columbia

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Economic Output ($ millions)
Direct	193	162	$6	$10	$22
Indirect	89	75	$2	$5	$12
Induced	36	30	$1	$2	$4
Total	*318*	*268*	*$9*	*$17*	*$38*

Figure ES-2: ACA *On-going* Tourism Economic Impacts in British Columbia

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Economic Output ($ millions)
Direct	11,100	8,900	$231	$357	$679
Indirect	2,500	2,000	$52	$135	$317
Induced	1,200	900	$24	$62	$117
Total	*14,800*	*11,800*	*$307*	*$554*	*$1,113*

Figure ES-3: Total Airport and Tourism Economic Impacts in British Columbia

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Economic Output ($ millions)
Direct	11,300	9,100	$237	$367	$701
Indirect	2,600	2,100	$54	$140	$329
Induced	1,200	900	$25	$64	$121
Total	*15,100*	*12,100*	*$316*	*$571*	*$1,151*

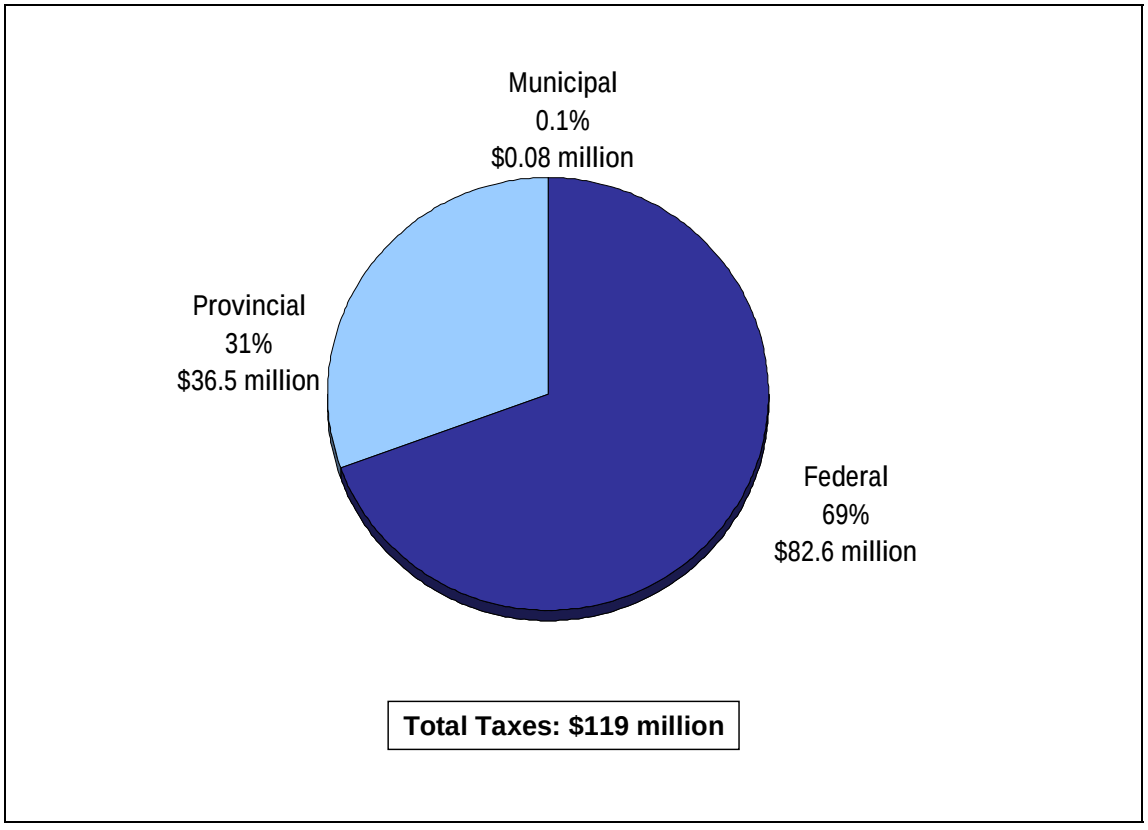
On-going operations at YQQ and the regional tourism industry generate $119 million per annum in government tax revenues.

On-going economic activity related to Comox Valley Airport and the regional tourism industry contributes an estimated $119 million annually in tax revenue contributions to all levels of government.

- The federal government was the largest recipient of tax revenue, receiving $83 million in 2006.
- The British Columbia provincial government received approximately $37 million in tax revenue in 2006.
- Local government collected an estimated $80,000 from the Comox Valley Airport Commission and airport tenants.

The estimated current contribution of the YQQ and tourism business community to government revenues through various taxes to all levels of government are shown in Figure ES-4.

Figure ES-4: Estimated Annual Tax Revenues to Government



Employment is generated each time an aircraft arrives at YQQ.

Each departure of a passenger flight from YQQ generates employment and labour hours for individuals with jobs involved in handling passengers, baggage, cargo, and the aircraft. There are also direct labour hours associated with auxiliary services offered at the airport, such as food concessions and car rental agencies. The number of jobs that are created by specific passenger services are presented below, including estimates for potential future transborder and international services. Note that these figures include only those jobs based at YQQ and do not include any flight crew, who are presently based out of other cities.

- A twice daily domestic jet service to Calgary generates 110 hours of employment per flight or a total of 44 person years annually.
- A new transborder regional jet service would be expected to generate approximately 40 hours of employment per flight or a total of 16 person years annually for a twice daily service.
- A new seasonal non-stop European charter jet service would generate significantly more hours of employment per flight, due to additional services required such as customs and catering, and due to the larger aircraft size. It is estimated that this service would require approximately 325 hours of employment for each flight, or a total of 7 person years annually for a twice weekly service operated over a 20 week summer season.

The economic impact of Comox Valley Airport and regional tourism businesses could grow by 740 direct person years of employment with continued airport traffic growth.

Companies whose business are currently supported, entirely or partly, as a result of air services at Comox Valley Airport stand to grow if passenger volumes increase. In addition, new businesses may be established on the basis of new opportunities facilitated by the airport. The incremental growth in airport and tourism economic impacts that could result if the 10-year best case passenger forecast at YQQ is realised would amount to an additional 740 person years of direct employment (910 direct jobs) in the region, paying wages of $20 million. The incremental direct GDP and economic output associated with best case employment growth are $27 million and $58 million, respectively. The total impacts, including indirect and induced impacts are estimated at 1,010 person years (1,250 jobs), $28 million in wages, $46 million in GDP and $98 million in economic output across British Columbia.

Figure ES-5: Combined Tourism and Airport Incremental Estimated Economic Impacts of Best Case

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Output ($ millions)
Direct	910	740	$20	$27	$58
Indirect	240	190	$6	$13	$30
Induced	100	80	$2	$6	$10
Total	1,250	1,010	$28	$46	$98

Comox Valley Airport also plays a broader role in the economy - facilitating and supporting economic development in the region

While the presence of an airport in a region is just one of numerous factors affecting economic growth and development, an airport with good levels of air service can play a strong role in supporting business activity, as well as directing economic activity towards a region. Air services at Comox Valley Airport play an important role in facilitating further economic growth in the Central and North Island economy, in particular for property development.

While growth in residential building and sales activity in recent years has been primarily fuelled by underlying factors such as the general growth of the B.C. economy, the oil boom in Alberta, and the recent boom in the Western Canada housing market, the airport's increasing connectivity has played a supporting role in attracting investment in vacation and retirement properties from buyers residing outside of B.C. Interviews with property developers in the region revealed that the air connectivity offered at Comox Valley Airport was a significant contributing factor in location decisions, and that out of town residents, particularly Albertans, represent a growing share of the recreational/second home market.

Table of Contents

1.0 Introduction

On-going operations at Comox Valley Airport (YQQ) and the region's tourism industry make considerable contributions to local employment, as well as the provincial and national economies. Since the last economic impact study was conducted in 2003, traffic at the airport has grown by 60%, generating new jobs and business opportunities for the region. This report documents the 2007 economic impact of the Comox Valley Airport and the regional tourism industry.

1.1 Comox Valley Airport Catchment Area (ACA)

Comox Valley is located mid-way along Vancouver Island's East Coast and includes the townships of Courtenay, Comox, and Cumberland, as well as Canadian Forces Base (CFB) Comox Airbase. The region is in close proximity to Strathcona Provincial Park, Forbidden Plateau, Mount Washington, and Denman and Hornby Islands, offering a variety of recreational activities year-round, including alpine skiing, golfing, fishing and hiking.

The primary YQQ catchment area includes the communities of Comox, Courtenay, and Cumberland (see Figure 1-1). The broader (secondary) Comox catchment area encompasses all communities north of the Malahat, including the North Island, Pacific Rim, Campbell River, Parksville-Qualicum, Nanaimo, Cowichan, and Sunshine Coast regions.

Figure 1-1: Map of Comox Valley Airport Catchment Area (ACA)

All references to the Airport Catchment Area (ACA) in this report refer to the broader Comox catchment area that includes all communities north of the Malahat in addition to the immediate catchment area.

1.2 Comox Valley Airport

The Comox Valley Airport (YQQ) is situated on the CFB Comox airbase. Opened in 1942, the airbase was a strategic element in Canada's Pacific defence during World War Two. A civilian terminal was added to the airbase in 1956 and run by Transport Canada until 1996 when the Comox Valley Airport Commission (CVAC) was formed and assumed management of the civilian terminal in July of that year. In May 1997, CVAC purchased the terminal for $1 and has run it as a self-supporting business without government assistance. In April 2004, the F/O C. Cottingham Terminal Building was opened and in 2005, the airport apron was enlarged significantly to accommodate more and larger aircraft. CVAC received capital assistance by way of a $4 million grant from the community, $2 million from the Province and $1.9 million from the federal government for the construction of the $20 million facility.

1.2.1 Current YQQ Air Services

YQQ is a significant gateway for commerce in the Comox Valley and beyond. As of June 2007, four airlines offer year-round service to/from the Comox Valley Airport: WestJet, Air Canada, Pacific Coastal Airlines, and Central Mountain Airways:

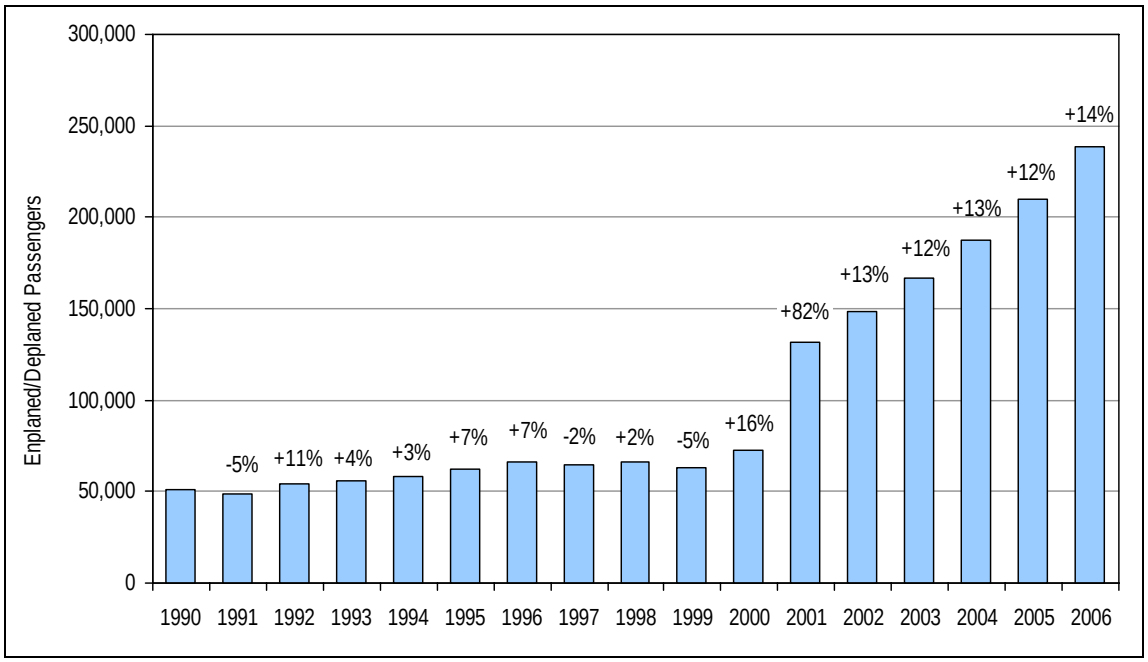
- WestJet flies between YQQ and Calgary 14 times per week (twice daily) on B737 aircraft. Starting in August 2007, service will increase to three times daily. Additionally, starting in December 2006, WestJet launched three weekly non-stop flights to Edmonton on B737 aircraft; this service was increased to daily service starting in April 2007.
- Air Canada Jazz has been operating daily service to Calgary on 50-seat CRJ aircraft since August 2006.
- Pacific Coastal Airlines has 37 flights each week between YQQ and Vancouver International Airport (YVR), with six daily flights Monday to Friday, four flights on Saturday and three on Sunday. The airline operates four different aircraft: the Embraer EMB-110 Bandeirante, Shorts 360, Beech 1900C and Beech King Air 200.
- Central Mountain Air flies between YQQ and YVR five times each day Monday to Friday, twice a day on Saturdays and three times a day on Sundays, using Beech 1900D aircraft.

In addition, Transat Holidays offers seasonal flights using WestJet aircraft between YQQ and Mexico (Puerto Vallarta) each winter (December to March), and Sunwing Vacations has announced that it will offer seasonal direct service to Mexico (Cancun) starting in December 2007.

1.2.2 YQQ Passenger Traffic

Since WestJet started flying to Comox in 2001, passenger traffic has more than tripled and continues to grow at double digit rates. Since the last economic impact study was conducted, traffic at the airport has grown by 60% to 238,600 passengers in 2006. This growth is displayed in Figure 1-2.

Figure 1-2: YQQ Passenger Traffic Volumes (1990 – 2006)



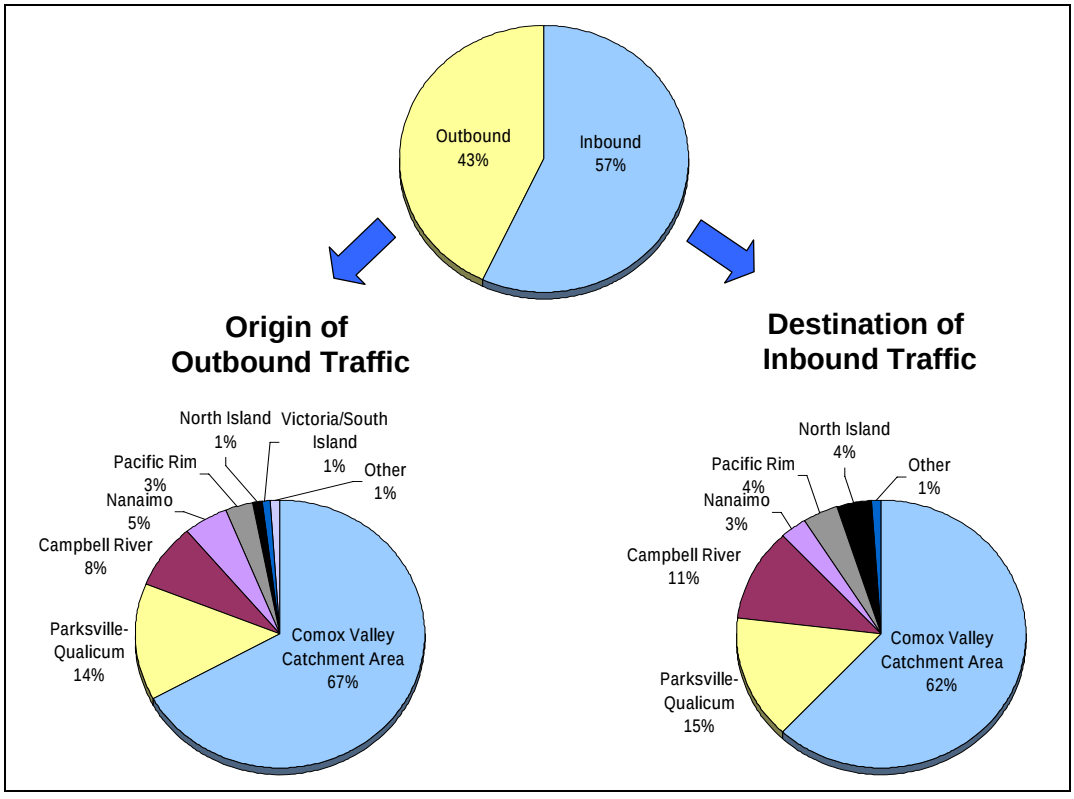
Source: Comox Valley Airport site statistics.

1.2.3 Passenger Usage of YQQ

YQQ draws passengers from across the island with over one-third originating or destined to an area outside of the primary catchment area of the airport. Based on passenger survey data from the 2006 Customer Satisfaction & Benchmarking program conducted at the airport:

- 43% of all passengers are outbound passengers, while 57% are inbound visitors. It is important to note that these results are based on survey data conducted during the peak summer season. Therefore, outbound/inbound ratios may vary on an annual basis.
- As illustrated in Figure 1-3, 67% of the outbound market are residents of the primary Comox Valley catchment area, while 14% reside in the Parksville-Qualicum region, 8% live in Campbell River, and 5% live in Nanaimo.
- A total of 62% of inbound passengers are destined to the primary Comox Valley catchment area. A further 15% are destined to Parksville-Qualicum, 11% to Campbell River, and 3% are travelling to Nanaimo.

Figure 1-3: Passenger Usage of YQQ – Outbound versus Inbound (2006)



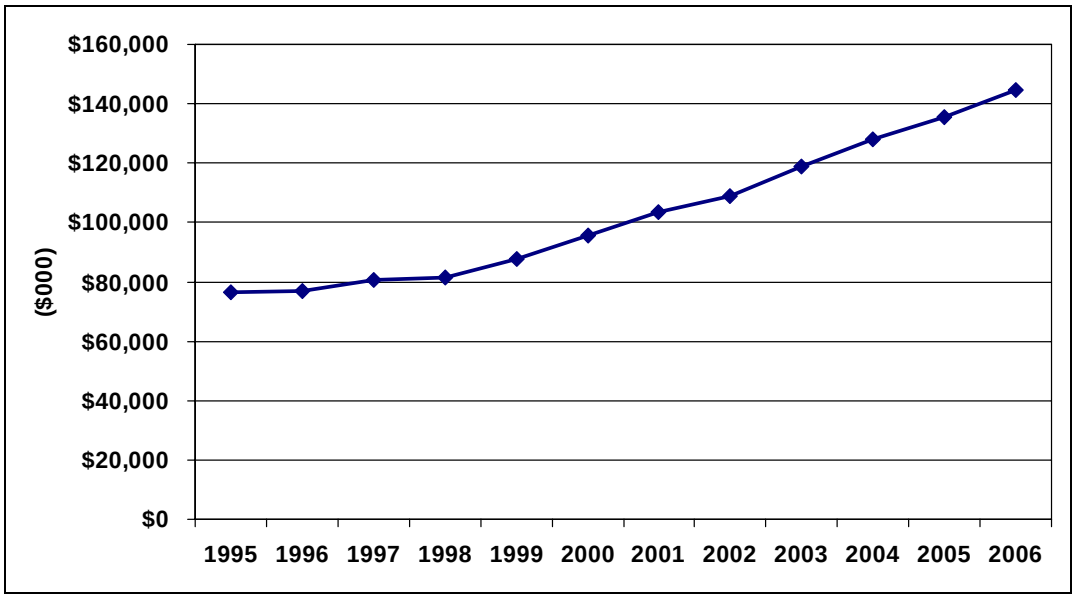
Source: 2006 YQQ Customer Satisfaction & Benchmarking Program.

1.3 Vancouver Island Tourism Market Overview

North and Central Vancouver Island is an internationally recognised, high quality tourism destination. The Vancouver Island/Coast region is the second largest regional tourism market in B.C. after Vancouver and Southwest B.C., and the North/Central Island region on its own is a large player. The area has a wide variety of attractions that generate four-season tourism including skiing, outdoor adventures, and cultural attractions. It attracts tourists from around the world who come for multi-day visits. Many of the visitors to the region have above average household incomes and approximately 17% of visitors travelling to Vancouver Island arrive by air. [3]

In 2006, excluding Victoria and the Capital Regional District, the Vancouver Island/Coast region included 406 properties – hotels, motels, fishing lodges, and vacation rentals – and provided close to 9,500 rooms to visitors, a little over half of all the rooms in the region. Since 1995, room revenue generated in Central and North Vancouver Island has increased steadily, as shown in Figure 1-4. Between 1995 and 2006 room revenues on Vancouver Island, excluding Victoria, have nearly doubled from $76,000 to $144,000. During this same period, both the number of properties increased by 17% in the region.

Figure 1-4: Room Revenue for Vancouver Island, Excluding Victoria, 1995-2006



Source: BC Stats.

[3] The Tourism Association of Vancouver Island and The Recreation and Tourism Research Institute at Malaspina University-College, "Summer visitor Survey Results," September 2003.

1.4 What is Economic Impact?

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project (such as the construction of a new facility), or a change in government policy or regulation. Economic impact can be measured in various ways. Two of the most popular ways to assess economic impact are in terms of the dollar value of industrial output produced, or in terms of person years (full-time equivalents or FTEs) of employment generated. Other measures include value-added (GDP) and value of capital used and/or created. All of these are used to express the gross level of activity or expenditure from a sector of the economy, a specific project, or a change in policy or regulation. As such, they are not "net" measures that weigh benefits against costs, but nevertheless these measures can be useful in developing an appreciation of projects, investments, and economic sectors.

This study measures the provincial economic impact of the ACA including direct, indirect and induced:

- *Employment*
- *Wages*
- *Economic / Industrial Output*
- *Gross Domestic Product (value-added)*

1.5 Scope of the Study

This study quantifies the existing and potential future economic impact of the Comox Valley Airport and tourism in the Airport Catchment Area (ACA).

Current and potential economic impacts resulting from continued airport expansion and growth are estimated.

Existing economic impacts. The businesses that generate the existing economic impacts are firms that support air services at Comox and provide tourism services in the airport catchment area. Airlines, car rental agencies, restaurants and other firms that are located at the airport exist to support air services to the region. As well, many types of businesses have developed in the ACA to provide services to tourists. In addition to the hundreds of guest accommodations and restaurants the region offers, it boasts world class resorts for both golfing and skiing. There is also a multitude of tourism services offered to many niche recreation markets.

Potential future economic impacts. The companies whose business is currently supported, entirely or partly, as a result of Comox Valley Airport's air services, stand to grow if the airport is further expanded and passenger volumes increase and new businesses may be established. Airport expansion, with strategic marketing, is expected to bring more flights and passengers to the region. More flights and passengers will undoubtedly boost business demand for firms located within the airport. Elsewhere in the ACA, tourism businesses will benefit from the increase in overall visitors to the region.

1.6 Outline of the Study

This report is designed to provide an estimate of the current economic impacts of air service and tourism employment in the Airport Catchment Area (ACA) as of May 2007, and potential (best case) economic impacts of traffic growth at Comox Valley Airport.

- Chapter 2 explains the methodology for estimating current and potential economic impact related to air services and tourism.

The report is then divided into three parts:

Part I: CURRENT ECONOMIC IMPACTS measures and describes the existing economic impact of the air services and tourism business community.

- Chapter 3 measures and describes the current direct employment base by means of a survey of employers within the airport and tourism business community.
- Chapter 4 uses multipliers to infer indirect and induced employment related to air service and tourism businesses, as well as GDP and economic output.
- Chapter 5 measures the tax contribution of the existing airport and tourism business communities in the ACA.
- Chapter 6 measures the impact of individual air services at the airport through micro economic impact studies.
- Chapter 7 discusses the role that YQQ plays in facilitating economic development in the region.

Part II: POTENTIAL FUTURE ECONOMIC IMPACTS focuses on the *potential* economic impacts that might be realised from continued traffic growth at the Comox Valley Airport, assuming the best case forecast of air traffic growth.

- Chapter 8 discusses the best case air traffic growth.
- Chapter 9 develops the best case scenario for incremental employment and other economic impact in the ACA airport and tourism sectors.
- Chapter 10 estimates the incremental tax contribution of the best case scenario.
- Chapter 11 offers conclusions.

Part III contains a set of report appendices with detailed explanations of the methodologies, assumptions and calculations used in this study.

PART I: THE ECONOMIC IMPACT OF *ON-GOING OPERATIONS* WITHIN THE COMOX VALLEY AIRPORT BUSINESS COMMUNITY AND THE AREA'S TOURISM INDUSTRY

2.0 The Methodology for Economic Impact Analysis

2.1 Estimating *Current* Economic Impact

The direct employment base of the airport business community is first measured. Employment figures are generally more understandable by the public than more abstract measures such as economic output or GDP. Employment figures also have the advantage of being a more accurate measure, both because the firms are more likely to provide data on employment, as opposed to information on revenues, wages and other monetary amounts, and because there is less chance of double counting economic activity.[4] The Comox Valley Airport Catchment Area business community's measure of direct employment and wages forms the basis for the rest of this study on the airport's contribution to the British Columbia economy.

The study then assesses the indirect and induced (or "multiplier") employment supported province-wide by airport operations, as well as economic activity terms of economic output and GDP using Statistics Canada economic multipliers. The tax revenues generated annually by the airport and tourism business community and visitors to the ACA are also estimated.

2.2 Estimating *Potential* Economic Impact

Estimates of the potential economic impacts are developed based on a best case air traffic scenario developed as part of the airport Master Plan. The best case includes domestic, transborder and international services, and related projections of flights per year and passengers. Incremental airport employment is estimated based on the airport's current economic impact and on the micro study results. Based on the best case passengers, incremental tourists arriving in the region are estimated. Using average stays and spend rates, the spending of these potential tourists is estimated and economic impact is derived from this sum.

2.3 Airport versus Tourism Employment

The economic impact results of the survey are broken out into the following two categories:

- Economic impacts of airport employers. The employment base of air service employers is concentrated at the Comox Valley Airport. The firms most obviously linked to the airport are the airlines. In addition to these firms that provide and support air services, there are businesses that provide other services to passengers such as car rental agencies. All of these firms are tenants of the Comox Airport and were surveyed as the basis for determining their economic impacts. Additionally, firms such as ground transportation providers and couriers using air transport were also surveyed as part of airport employment.
- Economic impacts of tourism service employers. The ACA hosts a large and diverse range of businesses that are either dedicated to tourism in the region or depend on tourism for

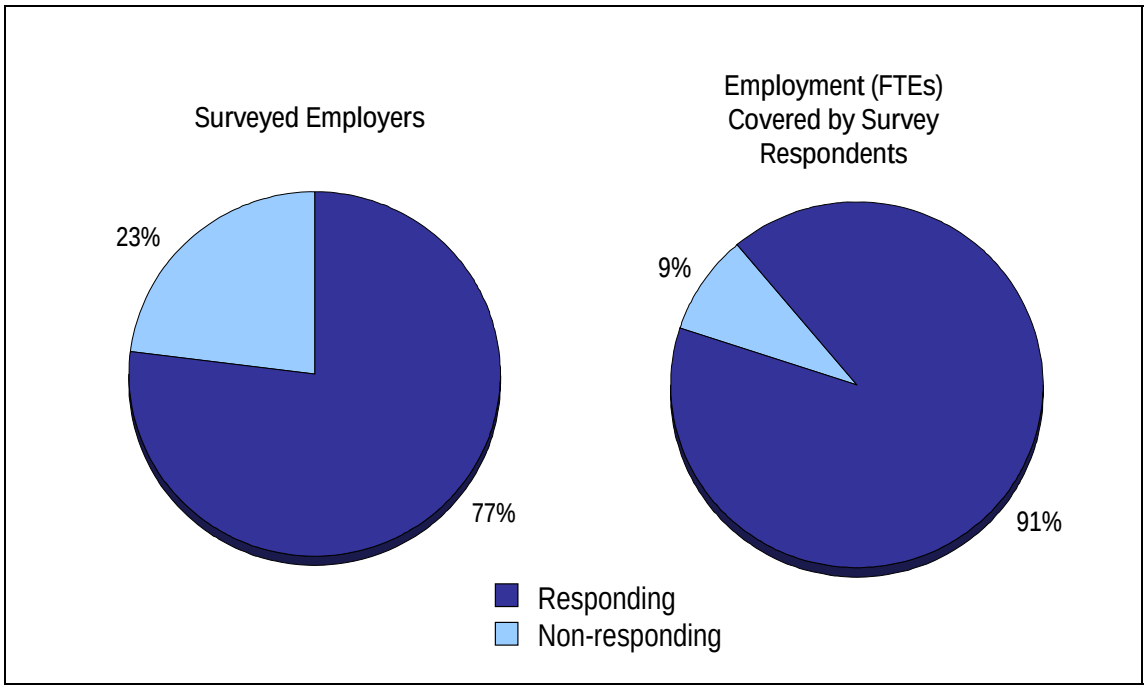
[4] For example, revenues reported by an air carrier would double count revenues received by caterers. The caterer's revenue is an expense for the airline.

at least part of their business. Employment for ski, golf, fishing and outdoor recreation firms was calculated based on an employment survey of firms in the ACA. Employment for accommodation was derived from a study of tourism employment on Vancouver Island by Tourism Vancouver Island, and scaled up for growth to 2007 using BC Stats hotel property, room and revenue data. Current restaurant and retail employment in the ACA was not surveyed although some, undoubtedly, is supported by tourism.

2.4 Surveying Direct Employment

Employment attributable to airport operations and the regional tourism industry was measured by surveying 98 businesses located at YQQ or off-site businesses economically linked to the airport. Specifics of the survey methodology are contained in Appendix 1 and sample copies of the survey are found in Appendix 2. Telephone follow-ups were conducted to increase the response rate. In total, 76% of the firms contacted returned the questionnaire, representing an estimated 91% of total person years of employment covered by the survey (see Figure 2-1). In a few cases, firms did not complete the entire survey, but did provide figures on total employment.

Figure 2-1: Airport and Tourism Employment Survey Response Rate



Note: Accommodation employment is not included in the above figure. Accommodation employment was derived from a study conducted by the Tourism Association of Vancouver Island as discussed in Section 2.3.

2.5 Inferring Employment

Employment was "inferred" for firms that did not respond to the survey by using a proven and accepted methodology.[5] This includes using other sources of employment information such as

[5] The methodology employed in this study to infer for non-respondents is also used by the federal government for estimating the national income and product accounts.

past employment surveys or using survey results for firms of similar types. A conservative approach was taken when using other survey or employment information to infer for non-responding firms. Appendix 6 provides additional detail on inferred employment.

There may be firms which were not surveyed simply because it was not known that they existed. We do not include any estimate of employment for such non-surveyed firms because there is no basis for an assessment. In any event, we expect most of these to be very small in terms of missed employment.

2.6 Direct versus Indirect versus Induced Employment

Employment can be broken down into the following categories:

Direct employment is employment that can be attributed to the ACA which includes those firms directly involved in the operation and management of YQQ, including firms on-site at the airport, airport-dependent businesses off-site and firms directly involved in tourism. Thus, the direct employment base includes employees of airlines, food concessions and rental car companies, among others, on-site at the airport and some employment at ground transportation companies, among others, off-site. As well, employees at hotels, resorts and tour operators in the ACA are counted as direct employment.

Indirect employment is employment in other industries that results from air service and tourism activity in the region. For example, employment at a machine repair shop that specialises in snow grooming equipment that belongs to the local resort would be considered indirect employment. Indirect employment is generated in support of direct air service or tourism-related employment.

Induced employment is employment generated from expenditures by individuals employed indirectly or directly. For example, if an airline ticket agent at YQQ decides to expand or re-model his/her home, this would result in additional (induced) employment hours in the general economy. The home renovation project would support hours of induced employment in the construction industry, the construction materials industry, etc.

Total employment is the sum of direct, indirect and induced employment. The multiplier (indirect and induced) economic impacts represent the maximum potential stimulus to the economy resulting from activity of YQQ and tourism related businesses.

2.7 Economic Multipliers

Measurement of indirect and induced economic activity is difficult. While it might be possible to conduct a survey of such employers, the survey would need to cover thousands of firms for indirect employment. For induced employment, the entire economy would need to be scrutinised. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect. It would be difficult for a regional produce supplier to know how much, if any, his or her business depends on provisioning airline caterers.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured by the use of *economic multipliers.* Multipliers are derived from economic/ statistical/accounting models of the general economy.[6] They come in a variety of forms and differ greatly in definition and application. Thus great care must be exercised in choosing the appropriate set of multipliers to use. In addition, the use of multiplier analysis is limited by a number of factors, these being:

- the accuracy of the structure and parameters of the underlying model;
- the level of unemployment in the economy;
- the assumption of constant returns to scale in production;
- the assumption that the economy's structure is static over time; and
- the assumption that there are no displacement effects.

Multiplier impacts must be interpreted with caution since they may be illusory when the economy experiences high employment and output near industry capacity. In general, the use and reporting of multiplier impacts is discouraged. When they are reported, it is recommended that the reader be reminded of the limitations on the use of multipliers. Mindful of these limitations, this study has undertaken multiplier analysis to estimate indirect and induced employment.

2.8 Study Time Frame

The employment survey was conducted during May 2007 and results reflect employment as of May 2007.

2.9 Jobs versus Person Years

Traditionally, one measures employment by the number of jobs. However, when part-time and/or seasonal workers are used, this can be a misleading measure resulting in an overstatement of economic impact. Whenever possible, employment impacts are measured both in terms of the number of jobs and the number of person years.[7]

[6] The multipliers used for the analysis are based on Statistics Canada economic multipliers for British Columbia from the 2001 Interprovincial Input-Output model, the most recent available. These multipliers were updated with Consumer Price Indices to account for inflation through 2007.

[7] One person year is equivalent to 1,832 hours of work. See Appendix 3 for a detailed calculation of the number of hours per person year. Person years are the same as full time equivalents (FTEs).

3.0 Direct Employment Impacts

3.1 Introduction

This chapter describes the direct employment in the airport catchment area. Both jobs and person years (full-time equivalents) figures are presented. Wages associated with this direct employment are estimated.[8] The direct employment impacts of the airport employers are presented separately from the region's tourism employers.

3.2 Airport Direct Employment and Wages

Direct employment related to on-going operations at Comox Valley Airport totalled 193 jobs as of May 2007.[9] After adjusting for part-time and seasonal employment, the 193 YQQ jobs amount to 162 person years of employment. This implies a direct job to person year ratio of nearly 1.2.

As of May 2007, Comox Valley Airport supports:

- *193 direct jobs representing 162 person years*
- *$6 million in wages*

Employees at airport related firms earned nearly $6 million in wages in 2007, in the range of $35,000 per person year of employment. Employment figures are summarised in Figure 3-1 for wages as well as jobs and person years.

Figure 3-1: YQQ Direct Employment and Wages

	Jobs	Person Years	Wages ($ millions)
Direct YQQ Employment	193	162	$6

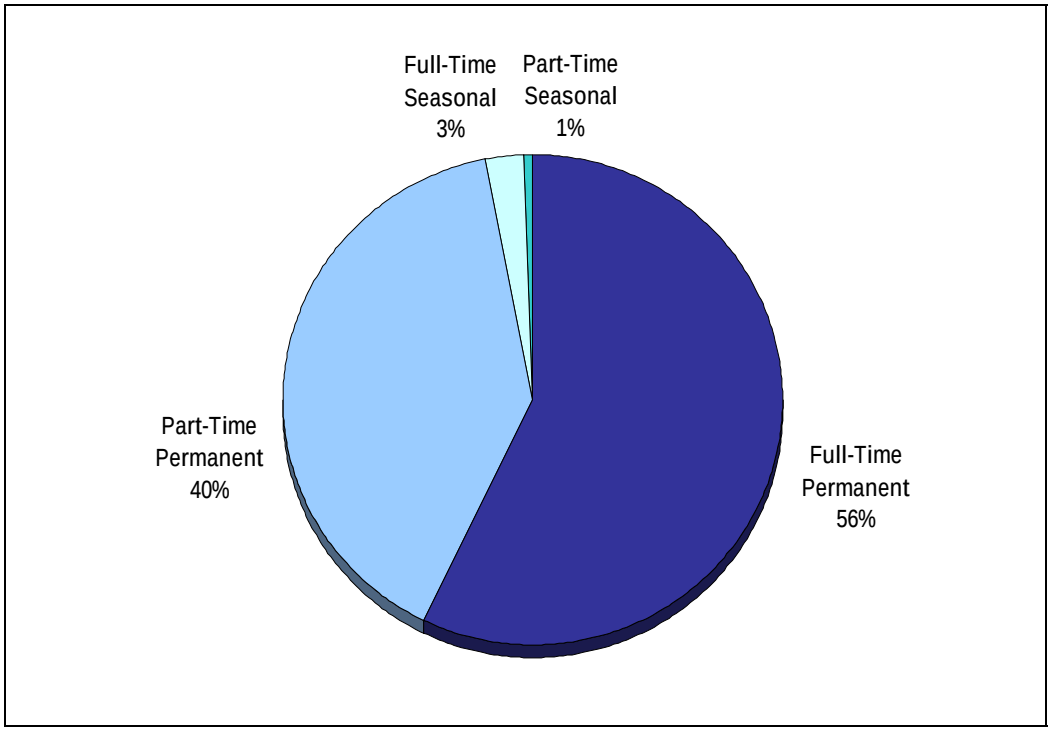
[8] Note that wage data in the 2007 study is based on estimated wages for the ACA based on survey results and Statistics Canada data. Wage data in the previous study was based on the provincial level multipliers.

[9] See Appendix 5 and Appendix 6 for details on employment by firm type.

3.2.1 Full-time versus Part-time and Seasonal Airport Employment

Of the surveyed jobs, 193 direct jobs attributable to YQQ operations in 2007, more than half (56%) were permanent full-time jobs. An additional 40% were permanent part-time jobs. Only 4% of jobs at the airport are seasonal. The breakdown of YQQ jobs and person years by full-time, part-time and seasonal positions is presented in Figure 3-2.

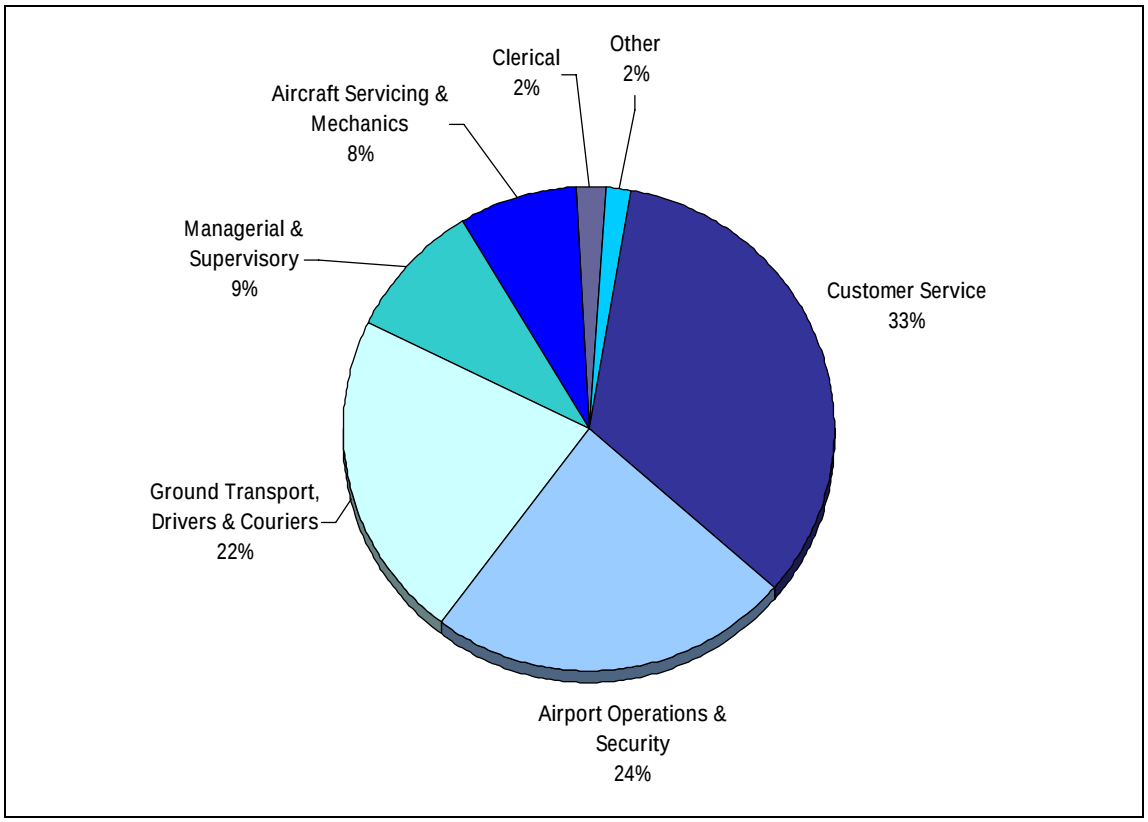
Figure 3-2: Full-time Versus Part-Time and Seasonal Airport Employment



3.2.2 Comox Airport Job Types

Of the 193 jobs, the majority of jobs at YQQ are related to customer service (33%) as seen in Figure 3-3. The second most common job function is airport operations & security (24%), followed by ground transport and couriers (22%) and managerial/supervisory positions (9%).

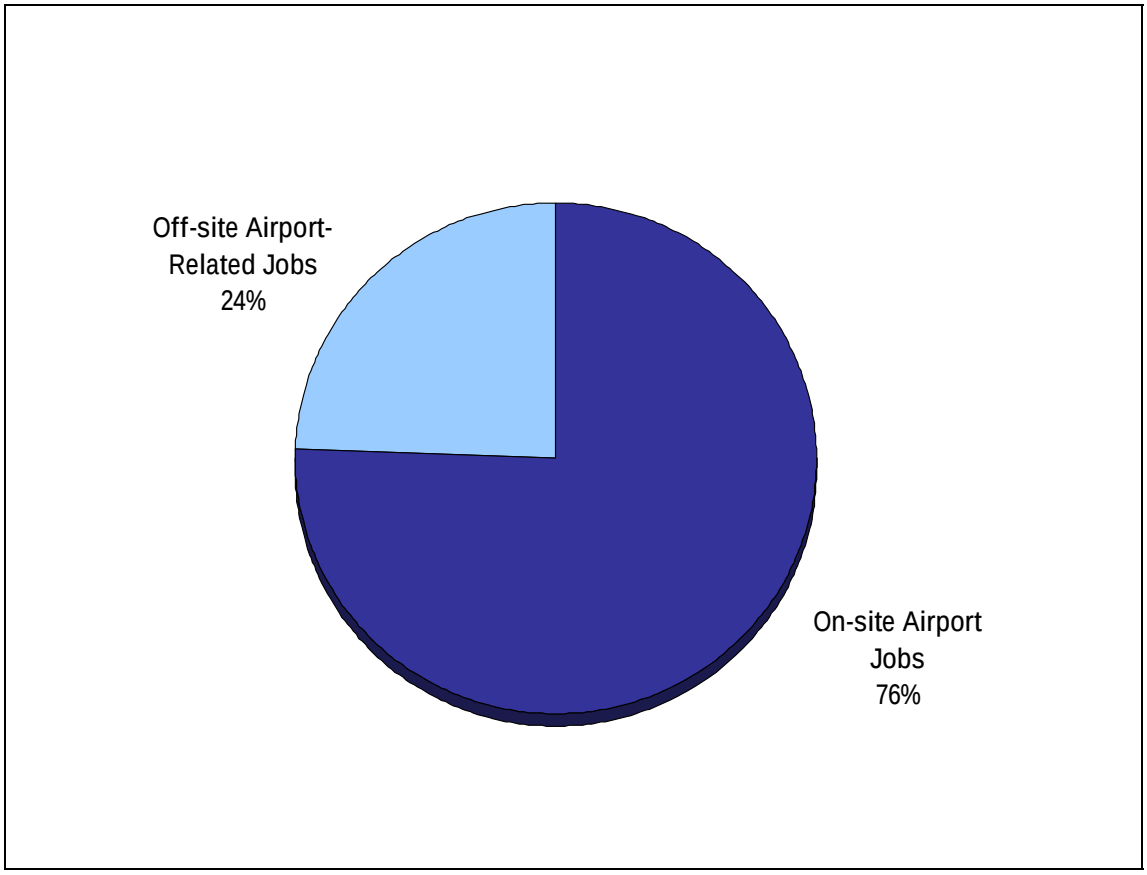
Figure 3-3: Comox Valley Airport Job Types



3.2.3 On-site versus Off-site Airport Related Employment

While the majority of airport related jobs are located directly at the airport (76% of jobs), nearly a quarter (24%) are located off airport lands. This includes ground transportation firms with headquarters off-site and couriers with facilities off airport lands. The breakdown of on-site versus off-site jobs is presented in Figure 3-4.

Figure 3-4: Off YQQ Direct Employment and Wages



3.3 Tourism Direct Employment and Wages

Direct employment related to tourism within the ACA was estimated to be 11,100 jobs or 8,900 person years as of May 2007. Employees at tourism related firms earned some $231 million in wages in 2007, yielding an average of $26,000 per person year of employment. Employment figures are summarised in Figure 3-5.

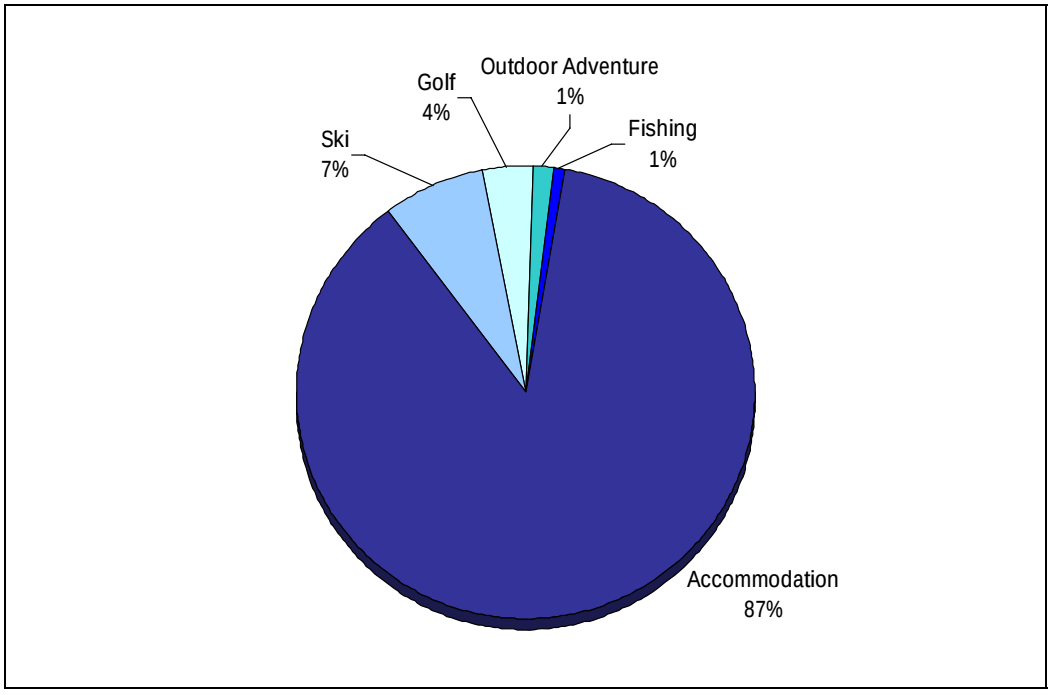
Figure 3-5: YQQ Catchment Area Direct Tourism Employment and Wages

	Jobs	Person Years	Wages ($ millions)
Direct tourism employment	11,100	8,900	$231

3.3.1 Employment by Tourism Activity

The bulk of tourism employment can be attributed to accommodation activities taking place in the ACA (9,700 jobs or 8,200 person years of employment), followed by ski-related and golf-related jobs. Figure 3-6 displays the breakdown of tourism employment by tourism activity.

Figure 3-6: Breakdown of Jobs by Tourism Activity



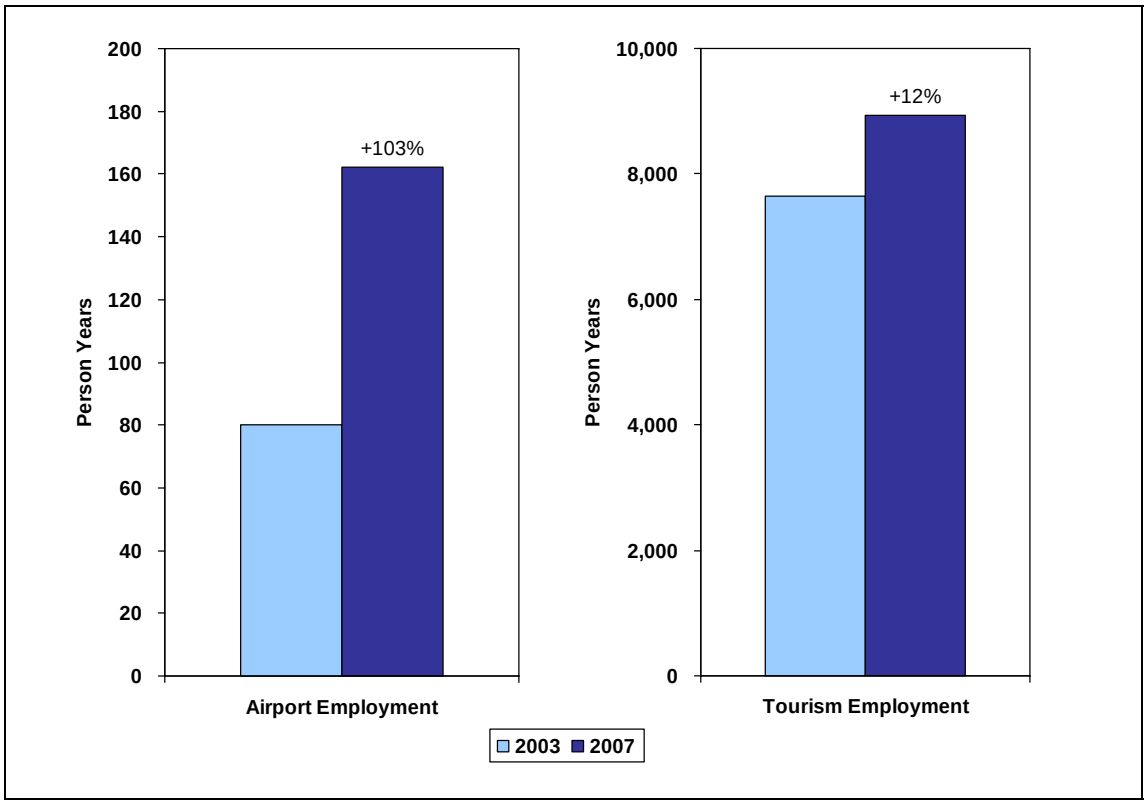
3.4 Comparison with 2003 Study Results

It is also worthwhile to compare the results of this study with those of the previous economic impact study conducted in 2003.[10] The study found employment directly at the airport has increased dramatically in the last few years, effectively doubling since 2003. Direct employment at YQQ was found to be 162 person years (193 jobs), an increase of 103% since 2003, when there were 105 jobs and 80 person years of employment related to the airport.[11]

Tourism employment has also increased from 10,000 jobs or 7,600 person years in 2003 to 11,100 jobs or 8,900 person years presently, an increase of 12% based on person years.

Direct airport and tourism employment growth since the previous study is presented in Figure 3-7.

Figure 3-7: Airport and Tourism Employment 2003 versus 2007



[10] InterVISTAS Consulting, Projected Regional Economic Impact of Comox Valley Airport Expansion, December 2003.

[11] The number of jobs increased 84% from 2003. This indicates that the growth in employment is the result of additional hours of work for existing staff as well as the creation of new employment positions.

4.0 Multiplier Impacts

4.1 Introduction

The previous chapters discussed how direct employment related to on-going operations at YQQ and tourism-related firms in the ACA was measured. However, the employment impact does not end there; other sectors of the economy are dependent on these employers' businesses. *Indirect* employment is generated at suppliers to the Comox Valley Airport and the tourism related business community. Additionally, there may be a general stimulus to the overall provincial economy when direct (and indirect) employees spend their wages. These employment effects are referred to as *induced* employment. Total employment impacts are the sum of direct, indirect, and induced impacts.

Total employment effects are the sum of direct, indirect and induced effects.

4.2 Indirect Employment

Indirect employment is employment in non-airport and non-tourism industries that supply or provide services to these industries. An example of this would be jobs that exist at a mechanics shop to meet the demands of the local ski lift repairs.

YQQ and regional tourism *indirect* employment in B.C.:

- *2,100 person years*
- *$54 million in wages*

Using British Columbia employment impact multipliers, an estimated 2,100 person years (2,600 jobs) are indirectly generated in British Columbia industries that supply YQQ and the Comox tourism business community. [12] Labour income associated with indirect employment is estimated at $54 million in British Columbia.

Figure 4-1: Indirect Employment and Wages

	Indirect Employment	
	Person Years	Wages ($ millions)
Airport Related	100	$2
Tourism Related	2,000	$52
Total	*2,100*	*$54*

[12] The source of the multipliers was Statistics Canada's 1996 Interprovincial Input Output Model. See Appendix 7.

4.3 Induced Employment

Induced employment is somewhat more complicated than indirect employment. It is employment created because of expenditures by individuals employed both directly and indirectly by the airport businesses. It is the demand for goods and services generated by wage earnings from economic activity in the airport sector. Induced employment in British Columbia attributable to YQQ and the related tourism community is estimated at approximately 930 person years (1,200 jobs).[13]

YQQ and regional tourism *induced* employment in B.C.:

- *900 person years*
- *$25 million in wages*

Figure 4-2: Induced Employment and Wages

	Indirect Employment	
	Person Years	Wages ($ millions)
Airport Related (on & off-site)	30	$1
Tourism Related	900	$24
Total	*930*	*$25*

4.4 Total Employment

Figure 4-3 summarises the direct, indirect, induced and total employment attributable to the on-going operations of the Comox Valley Airport and regional tourism in the British Columbia.

Figure 4-3: YQQ Related Direct and Total Employment in British Columbia

	Jobs	Person Years	Wages ($ millions)
Direct	11,300	9,100	$237
Indirect	2,600	2,100	$54
Induced	1,200	900	$25
Total	*15,100*	*12,100*	*$316*

.

[13] Statistics Canada has recommended some ratios of induced to direct plus indirect impacts which are used here.

4.5 Other Economic Impacts: Economic Output and GDP

Previous sections focused on the employment impacts of operations at businesses related to the Comox Valley Airport (YQQ) and the catchment area's tourism industry. This section turns to the airport's broader economic impacts that are measured in dollars.

Economic output: total revenues from industrial output including materials and supplies.

GDP: value-added in industrial output, net of intermediate revenues.

The two most common measures of economic contribution, in addition to employment, are *economic output* and *gross domestic product (GDP).* Economic output roughly corresponds to the *gross* revenues of goods or services produced by an economic sector, while GDP measures only *value-added* revenues. As such, GDP removes the revenues to suppliers of *intermediate* goods and services and only includes the revenues from value-added activities (labour and capital). Alternatively, economic output adds all revenues at each stage of production together as a measure of total production in the economy. Economic output will always be greater than GDP (also termed as value-added).

To estimate economic output for a sector, one might add up the gross revenues of the various firms in that sector. However, to find GDP for a sector, care must be taken to avoid double counting. The revenues of one firm providing service to another are not incremental GDP. For example, in the automobile sector, one cannot add the value (gross revenue) of a finished auto to the value of the tires. The tires are already included in the value of the automobile.

One approach to measuring economic output and value-added is to ask firms in a survey to provide information on their gross revenues, payments to suppliers, etc. However, there are several problems with the approach. First, it is much too expensive. Second, the double counting problem makes this approach impractical.

An alternative is to infer economic output and GDP for an economic sector from employment data using economic multipliers. Statistics Canada produces economic multipliers both for Canada and all of the provinces and territories, and these are both more cost effective and more accurate than obtaining the data from surveys. This method, using Statistics Canada economic multipliers for British Columbia is the approach adopted here.

4.6 YQQ and Regional Tourism Industry Economic Output and GDP

Figure 4-4 provides economic output and GDP impacts related to on-going operations at Comox Valley Airport employment for the province of British Columbia.

The employment supported by the YQQ and tourism business community described in Chapter 4 generates $367 million in direct gross domestic product and $701 million in direct economic output in the provincial economy. Including multiplier effects, operations at these businesses may be supporting $571 million in total (direct, indirect and induced) GDP and $1.2 billion in economic output economy-wide in British Columbia.

Figure 4-4: Direct and Total GDP and Economic Output in British Columbia Generated by YQQ

	GDP ($ million)	Economic Output ($ million)
Direct	$367	$701
Indirect	$140	$329
Induced	$64	$121
Total	*$571*	*$1,151*

5.0 Tax Revenue Impacts of YQQ and Regional Tourism Operations

5.1 Introduction

This chapter documents the current contribution to government revenues resulting from operations at Comox Valley Airport and the regional tourism industry.[14] This includes revenues received by federal, provincial and municipal governments.

Tax revenues generated by YQQ and regional tourism amount to $119 million a year.

Revenue contributions are divided into two groups, based on who is making the payment:

- Taxes paid by employers and employees. These include income and payroll taxes, social insurance contributions (such as the employment insurance premiums) for all direct employment associated with the ACA and the federal and provincial fuel and corporate income taxes paid by employers.
- Taxes paid by passengers using Comox Valley Airport and visitors to the tourism area. Visitors pay various taxes and fees such as tax on the Airport Improvement Fee, taxes on airline tickets and taxes on accommodations.
  For each category, taxes paid to the federal, provincial and local levels of government are separately identified.[15]

The purpose of this section is to present the tax revenue contributions resulting from the activity attributable to Comox Valley Airport and the surrounding tourism area. As with all such studies, a conceptual decision has to be made as to how broad a definition of *economic activity* should be used in measuring the impacts. For this study we have taken a relatively narrow definition. For example, we have not included:

- Taxes associated with indirect or induced employment (i.e. multiplier effects).
- Consumption taxes (GST and PST) paid by airport employees when they spend their income.
- Excise or import taxes on cargo.
- Taxes paid by airport users outside of the airport.

It would be very difficult to broaden the scope of the tax base in this analysis to include taxes generated by indirect and induced employment. The level of detail collected on direct employment by the survey is critical to the analysis, while such information is not available for the indirect and induced employment. This being the case, impacts and speculation about the general economy

[14] All estimates are based on 2006 calendar year tax rates, unless otherwise stated. See Appendices 8 and 9 for basic assumptions of the tax study.

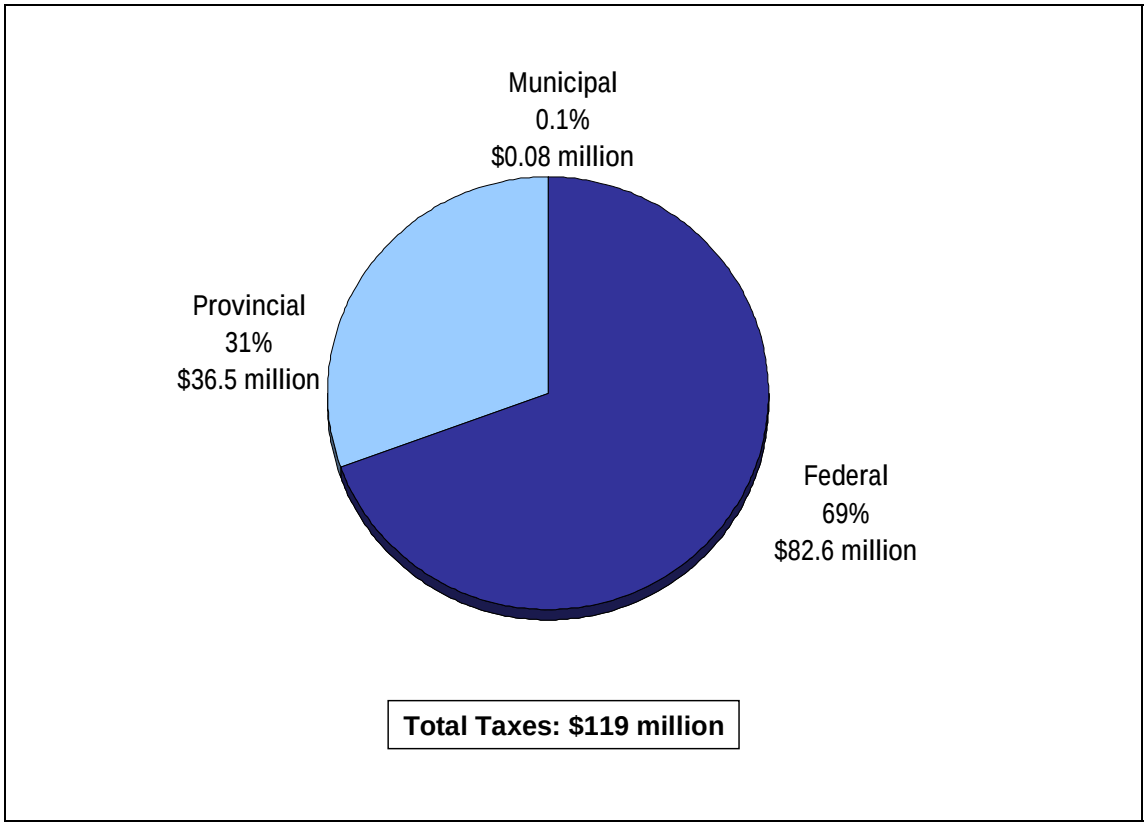
[15] For the most part, this study estimates taxes paid from information on the passengers, employers and employees within the ACA. In every case conservative methods were used.

would be complex and averages would not necessarily be precise or accurate. Therefore, the tax analysis in this report is limited to revenues attributable to direct employment only.

5.2 Taxes by Level of Government

The federal government is the largest recipient of tax revenue, receiving nearly $83 million (69% of the total), as seen in Figure 5-1, while the provincial government received close to $37 million. The local government collected taxes in the range of $80,000 from Comox Valley Airport Commission and airport tenants.

Figure 5-1: Breakdown of Tax Revenues by Government



5.3 Summary of Tax Contributions

In 2006, on-going economic activity at Comox Valley Airport and regional tourism generated tax revenue contributions to all levels of government are estimated to be in the order of $119 million.[16]

- Employers and employees paid $86 million (80% of the total), largely through a combination of income taxes and social insurance contributions.
- Comox Valley Airport passenger and regional visitor tax contributions are estimated at $24 million (20% of the total), mostly through the goods and services tax (GST) on accommodations.

A complete summary of tax contributions by Comox Valley Airport passengers and YQQ businesses is provided in Figure 5-2.

Figure 5-2: Current Tax Contributions of Airport Business Community and Passengers – 2006

	Federal		Provincial		Municipal		All Gov'ts	
	Tax	Amount ($m)	Tax	Amount ($m)	Tax	Amount ($m)	Amount ($m)	
Paid by Passengers & Visotirs	GST on Accommodation	9.5	PST on Accommodation	11.7				
	GST on Airport Concession, Parking, Ground Transport & Car Rentals	0.2	PST on Airport Concession, Parking, Ground Transport & Car Rentals	0.3				
	GST on AIF	0.04						
	GST on ATSC	0.03						
	GST on Airfares	1.6						
	Total	**11.4**	**Total**	**12.08**	**Total**	**0.00**	**23.5**	19.7%
Paid by Employers or Employees	Personal Income Tax	19.6	Personal Income Tax	8.1	Property Taxes	0.01		
	Corp. Income Tax	17.7	Corp. Income Tax	6.3				
	EI - Employer	6.2	WCB	4.0				
	EI - Employee	4.4	MSP	5.9				
	CPP - Employer	11.7						
	CPP- Employee	11.7						
	Total	**71.3**	**Total**	**24.4**	**Total**	**0.01**	**95.7**	80.3%
Paid By Comox Valley Airport Commission					Property Taxes	0.07		0.1%
	Total	**0.0**			**Total**	**0.07**	**0.1**	100.0%
	Grand Total	**$82.6**	**Grand Total**	**$36.5**	**Grand Total**	**$0.08**	**$119.2**	
		69.3%		30.6%		0.1%	100.0%	

[16] See Appendix 8 for detailed calculations of taxes paid by employers and employees and Appendix 9 for taxes paid by passengers using Comox Valley Airport.

6.0 Micro Economic Impact of Passenger Services at Comox Valley Airport

The previous chapters have provided an assessment of the overall macro economic impact of YQQ and the regional tourism industry. Further insight into the importance of YQQ can be gained by examining the economic impact of specific air services at the airport.

Each departure of a passenger flight from YQQ generates employment and labour hours for individuals with jobs involved in handling passengers, baggage, cargo and the aircraft. Among other things, this includes unloading and reloading the aircraft with passengers, baggage and cargo. There are also direct labour hours associated with auxiliary services offered at the airport, such as food concessions and car rental agencies. In this chapter, a series of micro economic impact studies are used to describe and document the direct local labour hours generated in servicing the departure of an individual passenger flight. In particular, the following services from YQQ are examined:

- An existing WestJet flight from Comox to Calgary.
- A hypothetical new scheduled service operating to the U.S.
- A hypothetical new seasonal charter service operating to a European destination.

Information for the WestJet micro study was gathered through interviews with airline managers involved with the operations of air service at YQQ. The economic impact of the hypothetical U.S. and European services was based on data collected at YQQ, as well as information from other similar services operated at other airports.

6.1 Existing WestJet YQQ-Calgary Service

WestJet currently operates twice daily service between Comox and Calgary. In addition to air carrier staff, a great number of people work in the terminal at YQQ providing support services for the passengers' convenience. In the following sections, we identify all of the roles for individuals in the terminal and the time they dedicate to the aircraft and to inbound and outbound passengers. The activities that take place in areas restricted to passengers, such as on the ramp and the administrative areas of the airport, are also explained

6.1.1 Airline Employment In-Flight Services

In-flight airline employees on the domestic routes selected include the flight crew in the cockpit and the cabin crew of flight attendants. The number of flight attendants required in the cabin depends on the number of passengers. Transport Canada regulations specify that there must be one flight attendant for every 40 passengers. WestJet flights require two crew in the cockpit and either three or four flight attendants in the cabin. However, at present none of the in-flight crew are based at YQQ and thus, have not been included in the local impact of the service.

6.2 Airline Employment in the Terminal

When outbound passengers arrive at the airport, their first encounter with employees in the terminal will likely be at the check-in counters. Once passengers check in, they proceed to the gate where their aircraft is waiting. Airline employees take positions at the gate in the departure lounge to regulate aircraft boarding.

Few inbound passengers demand services from airline staff at the airport. Exceptions are disabled or elderly passengers who may require assistance to disembark the aircraft. As well, passengers who arrive without their baggage require assistance at the baggage services counter.

In addition to the airline employees in the public areas of the terminal, the airlines also have supervisory employees and administrative employees in the office area of the terminal.

6.2.1 Security Related Employment in the Terminal

After checking in, but before boarding their flight, passengers must pass through security screening at YQQ. Garda is the contractor that provides this service on behalf of CATSA.

6.2.2 Ground Support Functions

Ground support services include "ground handling" (primarily baggage and cargo handling), aircraft provisioning, aircraft maintenance and aircraft fuelling. These services must be completed within the scheduled ground time. A ground crew stands by for the aircraft arrival to perform a number of duties before it can depart again. These support services can include:

- Driving and operating the conveyor belt to the belly hold
- Unloading and loading the belly hold with baggage
- Unloading and loading the belly hold with cargo
- Driving the tugs pulling baggage and cargo
- Cabin grooming
- Maintaining the lavatory
- Topping up the drinking water supply on the aircraft

At YQQ, a third party contractor (Airline Support Services) provides the above services to the WestJet flight. Additionally at YQQ, the ramp crew is also responsible for fuelling the aircraft from fuel trucks provided by CFB Comox.

6.2.3 Other direct on-site passenger employment impacts

Other firms provide support to passenger flight operations at YQQ, including:

- Employment related to airport management. Comox Valley Airport Commission staff provide services for the efficient and safe operation of YQQ.
- Employment related to food/beverage and retail services. There is one food/beverage outlet and one retail outlet located at the airport which provide services to passengers.
- Employment related to ground transportation and car rental services. A number of firms provide ground transportation services to passengers, such as taxis and shuttles. Additionally, there are two car rental companies located in the terminal.

6.2.4 WestJet Comox-Calgary Service Economic Impact Summary

A summary of the economic impact of WestJet's YQQ-Calgary Boeing 737 air service are provided in the following tables. Figure 6-1 illustrates the direct employment impact on a per flight basis, and also indicates the annual impact based on a twice daily service operated throughout the year. A summary of the annual economic impact of the air passenger services, including wages, GDP and economic output, is provided in Figure 6-2.

Figure 6-1: Direct Employment Impact of Comox-Calgary Air Passengers Services

	Per Flight	Annual Employment (Person Years)
WestJet Service to Calgary (2 flights per day)	110 hours (0.06 Person Years)	44

Source: Observation and interviews with airline personnel.

Figure 6-2: Direct Annual Economic Impact of Comox-Calgary Air Services

	Employment (Person Years)	Wages ($ Millions)	GDP ($ Millions)	Economic Output ($ Millions)
Direct	44	$1.5	$3	$7

6.3 Scenario: Scheduled Short Haul U.S. Service at YQQ

The economic impact of a potential new scheduled regional U.S. passenger service operating twice daily, with a 37-seat Dash-8 aircraft is assessed in this section. The new service is estimated to require 40 hours of employment for every arrival/departure at Comox, representing a total of 16 person years of employment over the full year. This is less than the Calgary service due to the significantly lower number of passengers per flight due to the smaller aircraft size. However, this figure does include additional hours required for Canadian Border Services Agency (CBSA) services required for non-domestic flights.

Figure 6-3 illustrates the direct employment impact on a per flight basis, and also indicates the annual impact based on the number of flights operated each year. A summary of the annual economic impact of the air passenger services, including wages, GDP and economic output, is provided in Figure 6-4.

Figure 6-3: Direct Employment Impact of a New Scheduled Regional Transborder Air Service

	Per Flight	Annual Employment (Person Years)
New Regional Scheduled Transborder Service (2 flights per day)	40 hours (0.02 Person Years)	16

Figure 6-4: Direct Annual Economic Impact of a New Scheduled Regional Transborder Air Service

	Employment (Person Years)	Wages ($ Millions)	GDP ($ Millions)	Economic Output ($ Millions)
Direct	16	$0.6	$1	$2

6.4 Scenario: International Charter Service at YQQ

The economic impact of a potential new non-stop international charter service operating twice weekly for 20 weeks of the year is assessed in this section. YQQ is currently served by Transat Holidays, a seasonal sunspot charter service which offers one weekly flight to Mexico during the winter season (from December to March). This scenario estimates the impact of an additional seasonal European charter service at the airport.

The hypothetical service would require a total of 326 hours per flight, due to the larger aircraft size and the need for additional services such as CBSA and catering. Over a 20 week season, the service would require approximately 7 full person years of employment.

Figure 6-5 illustrates the direct employment impact on a per flight basis, and also indicates the annual impact based on the number of flights operated each year. A summary of the annual economic impact of the air passenger services, including wages, GDP and economic output, is provided in Figure 6-6.

Figure 6-5: Direct Employment Impact of a New Seasonal European Charter Air Service

	Per Flight	Annual Employment (Person Years)
New Seasonal European Charter Air Service (2 flights per week for 20 weeks)	326 hours (0.18 Person Years)	7

Figure 6-6: Direct Annual Economic Impact of a New Seasonal European Charter Air Service

	Employment (Person Years)	Wages ($ Millions)	GDP ($ Millions)	Economic Output ($ Millions)
Direct	7.1	$0.3	$0.5	$1

7.0 The Role of YQQ in Facilitating Economic Development in the Airport Catchment Area

7.1 Introduction

The important role that YQQ plays in drawing visitors to central and northern Vancouver Island, and the economic impact of tourism in the region have already documented in this report. Also documented have been the multiplier effects of the airport and the regional tourism industry - the indirect and induced impacts that extend to many other industries in the region. However, Comox Valley Airport also plays a broader role in the economy: facilitating and supporting economic development in the Airport Catchment Area (ACA).

While it is clear that air transportation has increased as economies have grown, it is also recognised that air transportation is an important facilitator of economic growth. Academic research has demonstrated that air transportation has a significant influence on business location decisions, economic development, inward investment, tourism, and employment growth.[17] While the presence of an airport in a region is just one of numerous factors affecting economic growth and development, it is clear that an airport with good levels of air service can play a strong role in supporting business activity, as well as directing economic activity towards that region rather than locations with less air transportation connectivity.

Air services at YQQ have grown in response to growth in the economy and tourism activity in the Central & North Island. At the same time, the air services at YQQ have also played an important role in facilitating further economic growth in the local economy. This chapter outlines some of the ways in which YQQ facilitates and supports other economic activity within the ACA, in particular, property development.

[17] For example see:
Atlanta Chamber of Commerce (1988), "International Air Service as a Location Determinant for Foreign Business."; Brueckner, J. (2002), "Airline Traffic and Urban Economic Development."; Button, K., Lall, S., Stough, R. and Trice, M. (1999), "High-technology employment and hub airports," *Journal of Air Transport Management*, Vol. 5, Issue 1, January 1999; Button, K. and Taylor, S. (2000), "International air transportation and economic development," *Journal of Air Transport Management*, Vol. 6, Issue 4, October 2000; Cooper, A. and Smith, P. (2005), "The Economic Catalytic Effects of Air Transport in Europe," EUROCONTROL.

7.2 Property Development and Residential Sales Activity

Like many other regions in B.C., Comox Valley has experienced considerable growth in residential building and sales activity in recent years, as well as in average house prices (see Figures 7-1 and 7-2). A large number of new developments have been built both in the Comox Valley directly and in surrounding regions such as Campbell River and Parksville-Qualicum.

This growth in sales and development of the residential housing market has been primarily fuelled by underlying factors such as the general growth of the B.C. economy, the oil boom in Alberta and the recent boom in the housing market. However, YQQ's increasing connectivity to Alberta, and onward connections to/from eastern Canada, have played a supporting role in attracting investment in vacation and retirement properties from buyers residing outside of B.C.

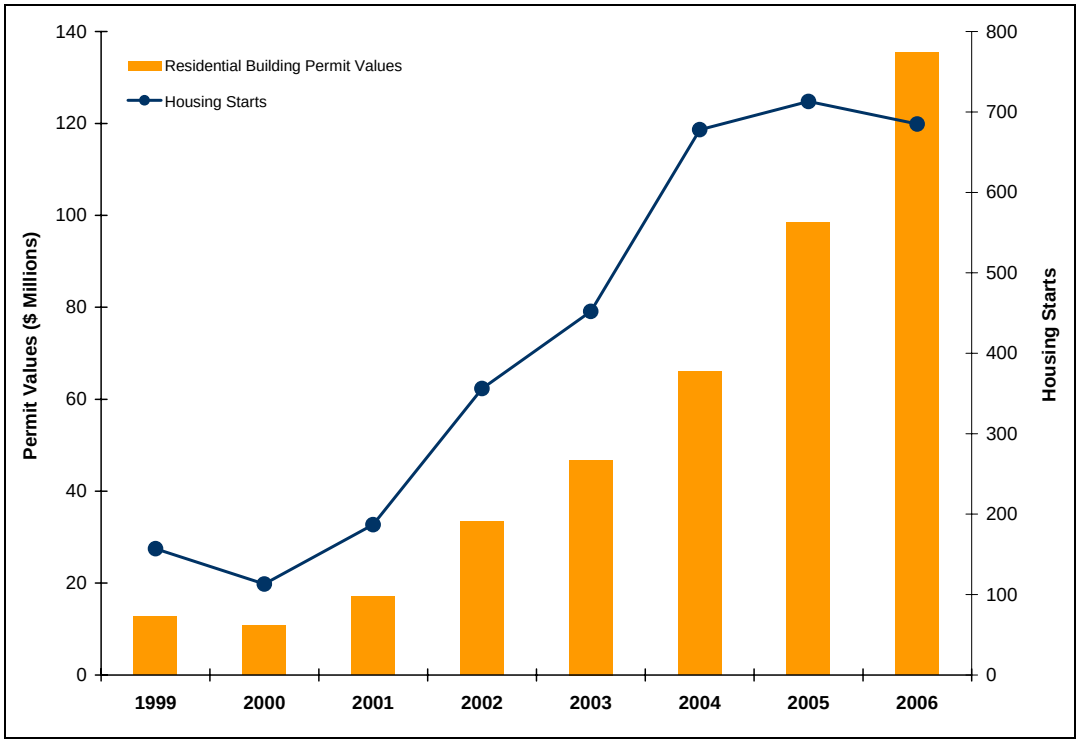
While the majority of sales in the Comox Valley region remain to residents of Vancouver Island, an increasing number are from outside of the province, particularly Alberta. According to the Vancouver Island Real Estate Board's Buyer Profile, residential sales in Comox Valley to Albertans have doubled from 6% in 1999 to 12% in 2005 (the most recent year for which data available).

Figure 7-1: Comox Valley Residential Building and Sales Activity

Comox Valley	1999	2000	2001	2002	2003	2004	2005	2006
Residential Building Permit Values ($000)	$12,749	$10,736	$17,153	$33,457	$46,763	$66,035	$98,560	$135,329
Housing Starts	157	113	187	356	452	678	713	685
Residential Real Estate Unit Sales	559	509	694	776	969	983	902	972
Average Single Family House Price	$148,056	$144,000	$142,903	$156,962	$169,153	$211,308	$236,325	$278,803

Source: Invest Comox Valley, Comox Valley Statistical Profile 2006.

Figure 7-2: Comox Valley Residential Permit Values and Housing Starts



Telephone interviews were conducted with six developers in the region to gather additional input on the role of the airport in facilitating property development. This included: Trilogy Properties, Mission Ventures, Island Coastal Resorts, The Old House Village Development, Kensington Coastal Properties and Sage Hills. These developers represent a range of projects, from resort properties to condominiums to houses and estate homes. Some of the developments also include commercial and recreational components such as restaurants, shops and golf courses. One of the projects, Sage Hills, also includes plans for a private university and school.

All of the developers indicated that the air connectivity offered at YQQ was a significant contributing factor in location decision, allowing out of town residents easy access to second homes/recreational properties in the area. The airport was viewed as a key transportation hub into and out of the Central and North Island, and that the direct air services with Alberta provided excellent connectivity for Albertans and beyond markets to access the region. Also of importance were the facilities at the airport, including the new terminal and the length of the runway, which were viewed as important for future traffic growth at the airport.

The developer input suggests that in recent years, the share of new units sold to Albertans has been even higher than the 12% noted above, with some developers estimating sales of between 30% and 50% for some recently completed or ongoing developments. All of the developers expected Alberta residents to continue to represent a very significant share of upcoming developments, with one developer expecting in the range of 80% of units in an upcoming resort property to be sold to Albertans.

The developers indicated that they are actively marketing current projects not only in those cities with direct air service, but also other markets with connecting service from Calgary and Edmonton, including northern Alberta, Saskatchewan, Ontario and the United States. A number of developers noted that after WestJet's direct service to Edmonton was launched, interest in their properties and sales to Edmonton residents increased significantly.

The increased demand for residential properties in turn, supports employment in construction and related industries. Additionally, as more non-residents purchase vacation properties in the region, demand for tourism infrastructure increases, leading to further business and employment opportunities in the region.

7.3 Other Impacts

Air transportation can attract investment and new businesses as company investment and location decisions are strongly affected by transportation links. Regions with higher levels of air service tend to attract more new businesses and encourage existing businesses to expand. For areas served by YQQ, this may include not only tourism businesses, but also businesses which use air cargo to ship products or require good connectivity for business travel.

Good air service levels can also enhance communications and economic connectivity between businesses located in different regions. For example, there have been a number of trade delegations between Comox Valley and Alberta to explore and establish two-way trading links.

Discussions with a number of major resort properties in the region, Kingfisher Oceanside Resort and Spa, Tigh-na-mara Resort and the Wickaninnish Inn, highlighted that accessibility of the region is key for attracting and growing tourist visits to the region. The increasing levels of air service at YQQ were viewed as having increased both the accessibility and profile of the region for out of town residents, especially Albertans. Air service was viewed as important to take advantage of the trend towards shorter, but more frequent vacations, where minimizing travel time and maximizing time at the destination are of importance.

In addition to the economic impact of YQQ and its role in supporting economic development of the region, there are also broader socio-economic benefits facilitated by air connectivity, including:

- YQQ increases the profile of the region. The significant increase in both the magnitude and range of business and tourism activity in the region, which is supported by YQQ service, increases the profile of Central and North Vancouver Island.
- YQQ offers residents greater connectivity both within Canada and globally. The connectivity that YQQ offers to residents improves on their quality of life and may attract new residents to the region by offering a broad range of easily accessible outbound destinations. While outbound tourism can be viewed as reducing the amount of money spent in an economy, it does involve spending in the home economy as well, such as at travel agencies, on taxis, etc.
- YQQ enhances cultural links. The increased inbound and outbound transportation linkages and resulting tourism activities can both strengthen and expand cultural ties of the region.

PART II: THE POTENTIAL ECONOMIC IMPACT OF INCREASED TRAFFIC GROWTH AT THE COMOX VALLEY AIRPORT

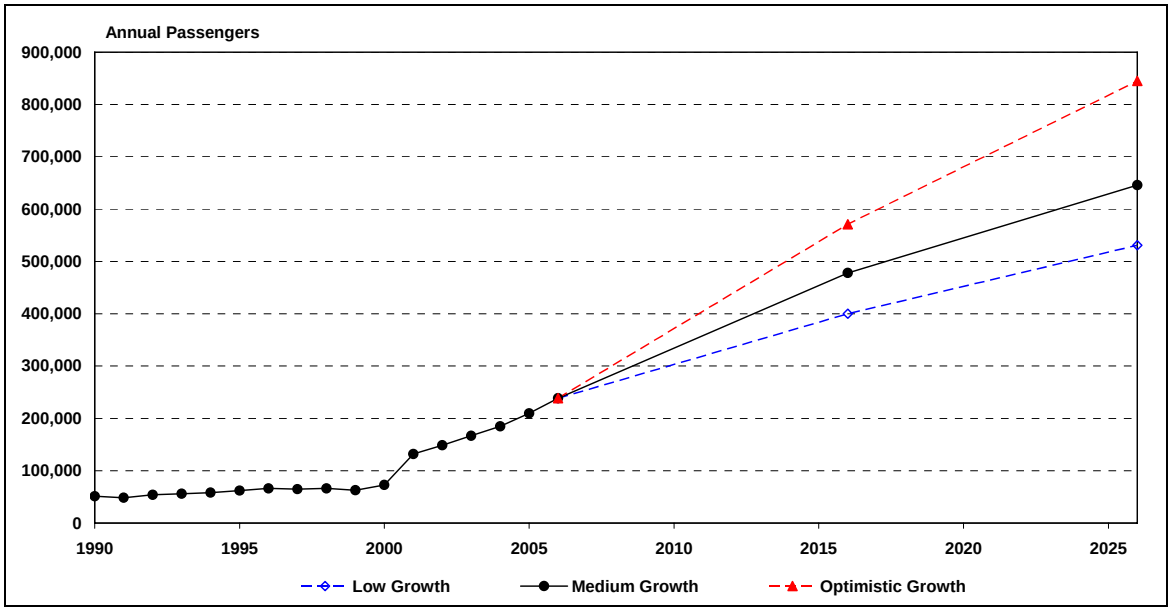
8.0 Best Case Air Traffic and Incremental Tourist Growth

Based on the existing estimated current economic impacts and the micro economic studies, this chapter develops scenarios for the future economic impact of airport and tourism jobs resulting from airport expansion, development of air services and increases in passenger volumes at the airport. The analysis in this chapter is based on the *best case forecast* for air traffic growth at the Comox Valley Airport, represented by the high growth case scenario in the YQQ Master Plan.

8.1 Forecast Passenger Growth

In the 2007 YQQ Master Plan, 20-year passenger forecasts for YQQ were updated, and are graphically depicted in Figure 8-1. Passenger traffic under the high growth scenario is forecast to increase at an annual rate of approximately 6.5%, reaching 571,000 by 2016 and 845,000 by 2026.

Figure 8-1: Comox Valley Airport Passenger Market Projections to 2026



In the high growth forecasts, it is assumed that there will be:

- Increases in service and capacity on domestic markets, which will strengthen YQQ's market share and its ability to attract further traffic in the expanded catchment area.
- Improved Vancouver (YVR) connecting service and more favourable connecting airfares. Better connection arrangements at YVR will improve connecting traffic, along with growing YQQ-YVR origin/destination traffic.
- YQQ will capture more traffic from other airports in the extended catchment area. The expanding network of WestJet will facilitate traffic connections at Calgary and Edmonton.
- New U.S. scheduled services will capture existing and potential traffic demand.

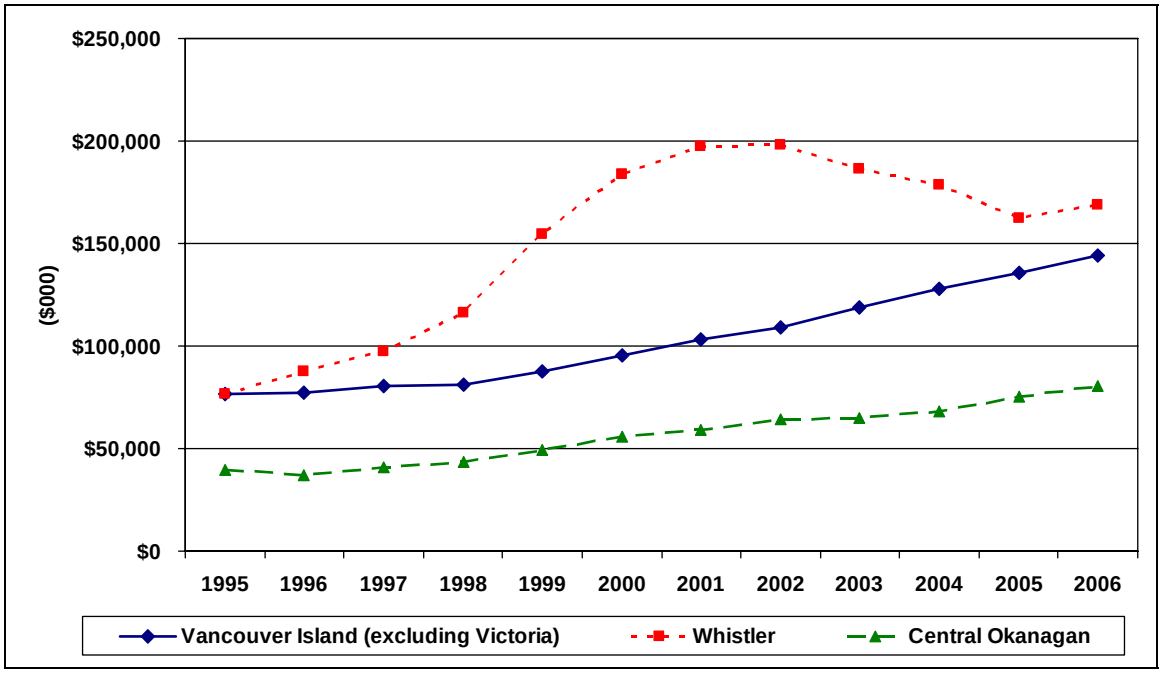
- Additional seasonal charter services to Mexico and new seasonal charter services to the U.S. and Europe are added.

8.2 Accommodations Revenue Growth

While the North and Central Island is a unique tourism area, it can be compared with other tourism areas in the province to provide order of magnitude growth potential. Since the mid-1990s, key areas in B.C. have experienced an extended period of tourism development. Tourism revenues for select B.C. regions between 1995 and 2006 are shown in Figure 9-3. At the beginning of the period, the Resort Municipality of Whistler and North/Central Vancouver Island had similar room revenues, but they diverged as Whistler experienced a spike in visits. However, since 2002, Whistler Revenues have been declining, while North/Central Vancouver Island revenues have continued to climb. In the same manner, the Central Okanagan is continued to grow at relatively steady growth rates over the period.

New air services at Comox Valley Airport resulting from infrastructure development will support the development of this large and growing tourism market.

Figure 8-2: Regional Room Revenue, 1995-2006



Source: BC Stats

Between 1995 and 2006, the North/Central Vancouver Island had an average annual room revenue growth rate of 6.5% per year, and a rate of just under 7% over the past five years. Given the region's historic growth rates, the coming of the Winter Olympics to B.C. in 2010, and growth at other B.C. tourism regions, average annual growth rates of over 5% are still considered reasonable.

8.3 Best Case Air Services Development

A best case air services scenario is developed below, based on the air passenger forecast and an estimate of tourism trends. The best case examines the potential for increased domestic, transborder and international (sunspot and European) traffic.

8.3.1 Domestic Traffic

Two aspects of best case domestic traffic are considered. These are the addition of flights to Comox from Canadian cities such as Edmonton, Calgary or Toronto on jet aircraft and an incremental increase in regional air service on turbo-prop aircraft.

The best case scenario assumes that two low cost carrier return flights per day are added at Comox. This demand would result primarily from increased tourism in the region and economic growth. For the best case, two additional return flights by 140-seat jet aircraft are assumed. Incremental passenger traffic on regional aircraft is also assumed. As Comox develops as a regional centre, it is assumed that it will attract more regional flights. For the best case, two additional flights by 19-seat turbo-prop aircraft are assumed.

8.3.2 Transborder – Scheduled and Charter Traffic

The best case assumes that Comox would develop a three-times daily regional turbo-prop service to the U.S. and a charter flight to a sunspot on a seasonal basis (3 flights per week for 20 weeks). The turbo-prop service would support primarily inbound U.S. visitors, whereas the charter service would support primarily residents of North and Central Vancouver Island travelling to sun spot destinations. The charter flights would be seasonal.

8.3.3 International – Seasonal Charter Traffic

In the best case, it is assumed that Comox attracts additional charter frequencies to both sunspot destinations (4 incremental frequencies per week for 20 weeks) and new charter services to European destinations (3 new frequencies per week for 20 weeks).

8.3.4 Best Case Summary

A summary of the best case assumptions is provided in Figure 8-3. This table provides an overview of the one-way flights projected in the best case, available seats and passengers. Note that the passengers volumes in this table are used to represent round trip individuals in the subsequent calculation of visitors (i.e., a passenger is counted only once for each enplaned and deplaned movement, in order to convert the passenger volumes into tourist volumes in Section 8.3.5).

Figure 8-3: Best Case Scenario, Increase in Flights, Seats and Passengers

Service	One-Way Flights			One-Way Seats		Passengers*	
	Per Week	*Weeks / Year*	*Annually*	*Per Week*	*Annually*	*Per Week*	*Annually*
Domestic							
140-seat B737-700	14	52	728	1,960	101,920	1,470	76,400
19-seat Beech 1900	14	52	728	266	13,832	200	10,400
Transborder							
Scheduled & Charter							
37-seat Dash 8-100	28	52	1,456	1,036	53,872	720	37,700
140-seat B737-700	3	20	60	600	12,000	510	10,200
International Charter							
200-seat to Sunspot	4	20	80	800	16,000	680	13,600
360-seat to Europe	3	20	60	1,080	21,600	920	18,400
TOTAL	66		3,112	5,742	219,224	4,500	166,700

* All passengers are assumed to be on round trips.

8.3.5 Incremental Tourists

To determine tourism related economic impacts, round trip passenger numbers have been translated into incremental tourists. This has been completed in Figure 8-4 (see Appendix 10 for assumptions used).

Figure 8-4: Incremental Tourists in Best Case Scenario

Service	Passengers			Incremental Tourists	
	Per Week	*Weeks / Year*	*Annually*	*Per Week*	*Annually*
Domestic 140-seat B737-700 19-seat Beech 1900	 1,470 200	 52 52	 76,400 10,400	 882 120	 45,900 6,200
Transborder Scheduled & Charter 32-seat Dash 8-100 140-seat B737-700	 720 510	 52 20	 37,700 10,200	 435 26	 22,600 500
International Charter 200-seat to Sunspot 360-seat to Europe	 680 920	 20 20	 13,600 18,400	 34 230	 700 4,600
TOTAL	4,500		166,700	1,700	80,500

9.0 Potential Economic Impacts of Best Case Development

9.1 Potential Employment Impacts of Best Case

The increased traffic levels at the airport will result in increased demand for services, and therefore in demand for employees. The increases in employment are based on the detailed data collected as part of the current economic impact estimates and the micro studies presented in Chapter 6.

The full-time equivalent employment for new domestic, transborder and international services are presented in Figure 9-1. The figures are based on traffic more than doubling from 238,000 in 2006 to 571,000 in 2016. The employment figures include not only new airline staff, but also employment generated at terminal services such as food/beverage and retail facilities, car rental companies, taxi/ground transportation, as well as customs services, security screening, ground handling support, catering, etc.

Figure 9-1: Best Case Direct Incremental Full-time Equivalents

Service	Full Time Equivalents
Domestic	30
Transborder	40
International	30
TOTAL	100

9.2 Potential Economic Impacts of Best Case

This chapter puts forward estimates of the potential future employment and other economic impacts associated with the *best case* forecast for air traffic growth at the Comox Valley Airport. The specific sectors that are considered to be directly affected by expansion at Comox Valley Airport are the businesses located at the Comox Valley Airport and businesses closely tied to tourism in the airport catchment area (ACA). The incremental economic impacts are reported in current 2007 dollars.

9.2.1 Potential Incremental Airport Economic Impact

In the best case scenario, an additional 100 direct person years of employment, or 120 jobs, at the Comox Valley Airport are expected to result from airport expansion. This is over a 60% increase in direct employment over current 2007 levels. This new direct employment would generate nearly $4 million in direct wages (see Figure 9-2).

Considering indirect and induced impacts, 181 person years of new employment may be created throughout the provincial economy, earning over $6 million in wages. The total impacts of the

airport sector of the ACA are estimated at some $13 million in value-added and $29 million in economic output.

Figure 9-2: Best Case Incremental Airport Sector Economic Impact

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Output ($ millions)
Direct	120	100	$4	$7	$17
Indirect	80	65	$2	$4	$10
Induced	30	25	$1	$2	$3
Total	230	190	$7	$13	$30

9.2.2 Potential Incremental Tourism Impacts

The approach used to estimate incremental tourism impacts used visitor expenditure profiles published by Statistics Canada, an approach commonly used for estimating economic impacts. These are applied to the incremental air visitors projected by the best case forecast. Projected visitor expenditures are suitable for analysing future economic impacts in this study for a number of reasons.

- First and foremost, potential visitor expenditures are a direct measure of the potential increase in demand for tourism industry output.
- The second advantage is that the expenditures represent the incremental air traffic tourism impacts only.
- The third benefit of applying established average spend rates to the expected incremental visitors is that it is a *conservative* approach. It is believed to be conservative because air travellers tend to spend more per diem than "rubber-tire" traffic. While spend data is available separately for air arrivals for U.S. and international visitors, it is published by this segment for domestic visitors. This being the case, the average spend rates that result from Statistics Canada Canadian travel surveys (dominated by the large proportion of drive-in visitors) are more likely to understate the total expenditures of new air traffic than overstate it.

In order to calculate expenditures by the incremental visitors, it is necessary to estimate average spending per day and average days per trip. Multiplying the three components together yields an estimate of the total expenditures on tourism industry output in the best case of air traffic growth. The detailed analysis of how these rates were estimated for each type of traveller is provided in Appendix 10.

The estimated best case tourism economic impacts of airport expansion from this approach are presented in Figure 9-3. Potential visitors are expected to spend approximately $40 million on such items as accommodation, food and beverage, transportation, retail and recreation, etc. within the ACA. An increase in expenditures of this magnitude from the tourism industry would support approximately 640 new person years of direct employment, paying wages of $16 million.

Since the new jobs may be seasonal, there may be a great many more seasonal and part-time jobs created than described here. Using the ratio of direct jobs to person years established in the Vancouver Island tourism region employment survey, approximately 800 new direct jobs may be created. The employment increases could represent an increase both in the number of establishments in the region and growth in the existing ones.

Estimated future air traffic tourism expenditures:

- *May create approximately 800 direct jobs representing 640 person years of employment*
- *Represent $40 million in direct tourism industry output*

Indirect and induced employment and economic impacts of growth in the tourism sector are expected to be substantial in the best case. Including indirect and induced impacts, the increase in tourism spending may support approximately 800 total person years in the provincial economy. Including indirect and induced impacts, total increase in GDP attributable to growth in the tourism industry would be nearly $33 million. Economic output could rise by nearly $67 million.

Figure 9-3: Best Case Incremental Tourism Sector Economic Impacts

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Output ($ millions)
Direct	800	640	$16	$20	$40
Indirect	160	130	$3	$9	$20
Induced	70	60	$2	$4	$7
Total	1,030	830	$21	$33	$67

9.3 Combined Potential Airport and Tourism Economic Impact for Best Case

Combined, the best case economic impacts of airport and tourism employment are significant. The analyses of the best case economic impacts of airport expansion on airport and tourism businesses have been combined in Figure 9-4.

Figure 9-4: Combined Tourism and Airport Incremental Estimated Economic Impacts of Best Case

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Output ($ millions)
Direct	910	740	$20	$27	$58
Indirect	240	190	$6	$13	$30
Induced	100	80	$2	$6	$10
Total	1,250	1,010	$28	$46	$98

Note: Totals may not add due to rounding.

Contingent on the realisation of the best case forecast or air traffic growth at the Comox Valley Airport, 740 direct person years of employment is estimated to be created in the ACA. The vast majority of the new jobs are expected to be in the tourism sector. Although it represents a small portion of the total best case employment, new employment at the Comox Valley Airport would increase the workforce by approximately 60%. The estimated best case direct employment is associated with close to $20 million in wages, $27 million in GDP and $58 million in airport and tourism industry output. The total impacts (direct plus indirect plus induced) of the best case on the provincial economy may be as great as 1,010 person years of new employment, $28 million in wages, $46 million in value-added and $98 million in industrial output.

10.0 Potential Incremental Tax Impacts for Best Case

This section presents an estimate of incremental tax revenues that would be associated with the best case scenario for air traffic growth at the Comox Valley Airport. To avoid speculating about the future fiscal environment, the potential tax impacts of the best case are generated based on existing tax rates.[18]

The revenue contributions are divided into two groups, based on who is making the payment:

- Taxes paid by and on behalf of incremental employees. These are taxes paid by the airport and tourism sectors' employers or employees in the best case. They include potential income and payroll taxes, corporate taxes and social insurance contributions such as the employment insurance premiums based on 2006 tax rates and laws.
- Taxes paid by incremental air visitors. Potential visitors are expected to pay various taxes and fees. These will include taxes on personal expenditures while in the airport catchment area (ACA), taxes on food and beverages, and taxes associated with airline tickets.

For each category, incremental taxes paid to the federal and provincial levels of government are separately identified. For the same reasons as in the existing economic impacts analysis, in calculating the best case tax impacts the following are not included:

- Taxes associated with indirect or induced employment (i.e. multiplier effects); and
- Consumption taxes (GST and PST) paid by airport and tourism employees when they spend their income.

[18] 2006 tax laws and rules are used for this analysis.

10.1 Summary of Incremental Tax Contributions for Best Case

The incremental best case economic activity in the airport and tourism employment sectors would generate additional tax and revenue contributions to all levels of government estimated to be in the order of $14 million. A complete summary of best case tax contributions from incremental Comox Valley Airport visitors and tourism employment in the ACA is provided in Figure 11-1.

- Employers and employees would pay close to $8 million (over 56% of the total), largely through a combination of income taxes and social insurance contributions.
- Comox Valley Airport visitor tax contributions are estimated at just over $6 million (44% of the total), through the GST and provincial taxes.

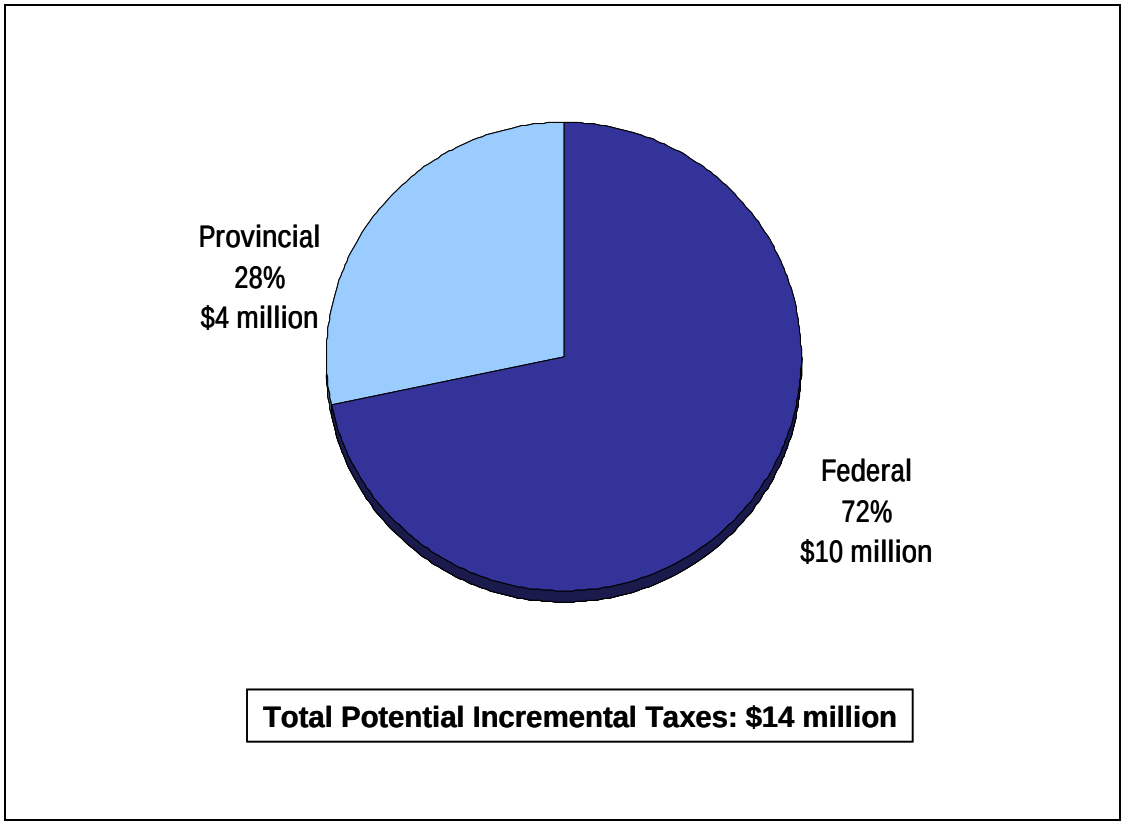
Figure 10-1: Potential Incremental Tax Contributions for Best Case

	Federal		Provincial		Municipal		All Gov'ts	
	Tax	Amount ($m)	Tax	Amount ($m)	Tax	Amount ($m)	Amount ($m)	
Paid by Passengers	GST on Accommodation	0.9	PST on Accommodation	1.1				
	GST on Food & Beverage	0.5	PST on Liquor	0.3				
	GST on Ground Transportation	0.4	PST on Ground Transportation	0.4				
	GST on Recreation	0.2	PST on Retail	0.3				
	GST on Retail	0.3						
	GST on AIF	0.05						
	GST on ATSC	0.05						
	GST on Airfares	1.8						
	Total	**4.2**	**Total**	**2.0**	**Total**	**0.00**	**6.2**	43.9%
Paid by Employers or Employees	Personal Income Tax	1.7	Personal Income Tax	0.7				
	Corp. Income Tax	1.4	Corp. Income Tax	0.5				
	EI - Employer	0.5	WCB	0.3				
	EI - Employee	0.4	MSP	0.5				
	CPP - Employer	1.0						
	CPP- Employee	1.0						
	Total	**5.9**	**Total**	**2.0**	**Total**	**0.00**	**7.9**	56.1%
Paid By Comox Valley Airport Commission					Property Taxes	-		0.0%
	Total	**0.0**			**Total**	**-**	**0.0**	100.0%
	Grand Total	**$10.1**	**Grand Total**	**$4.0**	**Grand Total**	**$0.00**	**$14.2**	
		71.6%		28.4%		0.0%	100.0%	

10.2 Potential Taxes by Level of Government for Best Case

The federal government would be the largest recipient of tax revenue in the best case, receiving just over $10 million (72% of the total), as seen in Figure 10-2. The B.C. provincial government might receive close to $4 million in tax revenue related to the best case incremental airport and tourism employment in the ACA (28% of the total).

Figure 10-2: Breakdown of Potential Incremental Tax Revenues by Government



11.0 Conclusions

The tourism businesses and the Comox Valley Airport have a significant impact on regional employment which, in turn, has considerable impacts on the British Columbia economy measured by GDP, economic output and tax revenues. With continued expansion of the Comox Valley Airport, and assuming the best case forecast of air traffic growth, the regional and provincial impacts will be greater still.

Comox Valley Airport and the tourism businesses in its catchment area are considerable economic generators for the region and the province.

The Comox Valley Airport and the regional tourism industry are major economic generators by every measure. In 2007, it is estimated that these two employment sectors combined supported a total of 9,100 direct person years of employment (11,300 direct jobs), $237 million in wages, $367 million in GDP, and $701 million in output in the Airport Catchment Area (ACA). Considering multiplier impacts, the total impacts of both sectors are estimated at 12,100 person years of employment, $316 million in wages, $571 million in GDP, and $1.2 billion in output economy-wide in British Columbia.

Furthermore, the study found employment at YQQ has increased dramatically in the last few years, effectively doubling since 2003. Direct employment at YQQ was found to be 162 person years (193 jobs), an increase of 103% since 2003 when the previous economic impact study was conducted (based on the growth in person years).[19] Tourism employment has also increased from 10,000 jobs or 7,600 person years in 2003 to 11,100 jobs or 8,900 person years presently, an increase of 12% based on person years.

The in-province economic impacts of on-going operations within the Comox Valley Airport catchment area business community are summarised in Figure 11-1, Figure 11-2 and Figure 11-3.

[19] The number of jobs increased 84% from 2003. This indicates that the growth in employment is the result of additional hours of work for existing staff as well as the creation of new employment positions.

Figure 11-1: Comox Valley Airport *On-Going* Economic Impacts in British Columbia

Type of Impact	Jobs	Person Years	Wages ($millions)	GDP ($millions)	Economic Output ($millions)
Direct	193	162	$6	$10	$22
Indirect	89	75	$2	$5	$12
Induced	36	30	$1	$2	$4
Total	*318*	*268*	*$9*	*$17*	*$38*

Figure 11-2: ACA *On-going* Tourism Economic Impacts in British Columbia

Type of Impact	Jobs	Person Years	Wages ($millions)	GDP ($millions)	Economic Output ($millions)
Direct	11,100	8,900	$231	$357	$679
Indirect	2,500	2,000	$52	$135	$317
Induced	1,200	900	$24	$62	$117
Total	*14,800*	*11,800*	*$307*	*$554*	*$1,113*

Figure 11-3: Total Economic Impacts in British Columbia

Type of Impact	Jobs	Person Years	Wages ($millions)	GDP ($millions)	Economic Output ($millions)
Direct	11,300	9,100	$237	$367	$701
Indirect	2,600	2,100	$54	$140	$329
Induced	1,200	900	$25	$64	$121
Total	*15,100*	*12,100*	*$316*	*$571*	*$1,151*

The current economic impact of Comox Valley Airport and regional tourism businesses could grow by approximately 740 direct person years of employment with continued airport traffic growth.

The incremental growth in airport and tourism economic impacts that could result, if the best case airport forecast is realised, would amount to an additional 740 person years of direct employment in the region, paying wages of approximately $20 million. The incremental direct GDP and economic output associated with best case employment growth are $27 million and $57 million, respectively. The total impacts, including indirect and induced impacts, are estimated at 1,010 person years, $28 million in wages, $46 million in GDP and $98 million in economic output across British Columbia.

Figure 11-4: Combined Tourism and Airport Incremental Estimated Economic Impacts of Best Case

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Output ($ millions)
Direct	910	740	$20	$27	$58
Indirect	240	190	$6	$13	$30
Induced	100	80	$2	$6	$10
Total	1,250	1,010	$28	$46	$98

The Comox Valley Airport and the regional tourism industry are strong generators of tax revenues.

Each of the 11,300 current direct jobs is filled by a person earning wages in the ACA while supporting the provincial and national economies by paying taxes. Employees in these two sectors and their employers paid some $96 million in taxes. Additionally, passengers and visitors to the region paid $24 million in taxes on goods and services purchased. A total of 69% of the $119 million in tax revenues went to the federal government and 30% went to the provincial government, while less than 1% went to local government.

Tax revenues could increase by $14 million annually with continued air traffic and visitor growth.

The increased regional employment resulting from continued air traffic growth and increased spending of air visitors to the region is expected to generate over $14 million in incremental government tax revenues, assuming the best case forecast for air traffic growth. The provincial share of these tax revenues is expected to be in the order of $4 million on an annual basis (28%), with the federal share at $10 million annually (72%).

PART III: APPENDICES

Glossary of Terms

Contract Work: Any work which is done for a company by an individual who is not on the payroll or work done for a company by another company. Generally speaking, firms will contract out work in areas in which they do not have expertise or when there are cost advantages to doing so.

Direct Employment: Direct employment is employment that can be directly attributable to the operations in an industry, firm, etc. It is literally a head count of those people who work in a sector of the economy. In the case of the airport, all of those people who work in an aviation related capacity would be considered direct employment.

Economic Activity: (also Output, Production) The end product of transforming inputs into goods. The end product does not necessarily have to be a tangible good (for example, knowledge), nor does it have to create utility (for example, pollution). Or, more generally, the process of transforming the factors of production into goods and services desired for consumption.

Employment Impact: Employment impact analysis determines the economic impact of employment in terms of jobs created and salaries and wages paid out. In the case of the airport, the direct, indirect, induced and total number of jobs or person years created at the airport is examined to produce a snapshot of airport operations.

Full-time Equivalent (FTE): (also Person Year) One full-time equivalent (FTE) year of employment is equivalent to the number of hours that an individual would work on a full-time basis for one year. In this study we have calculated one full-time equivalent year to be equivalent to 1,832 hours. Full-time equivalent years are useful because part-time and seasonal workers do not account for one full-time job.[20]

GDP: (also value-added) A measure of the money value of final goods and services produced as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

GNP: GNP is equal to GDP plus the incomes of nationals abroad and minus income of foreigners.

Ground Transportation: Ground Transportation at the airport includes any vehicles which transport passengers from the airport to the cities or from the cities to the airport. This would include taxicab service, limousine service and hotel van service. Valet service as well as skycaps are included in this category.

Indirect Employment: Indirect employment is employment which results because of direct employment. For the airport, it would include that portion of employment in supplier industries which are dependent on sales to the air transport sector. In some cases, contract work would be considered indirect employment.

[20] *The Dictionary of Modern Economics*, David W. Pearce, General Editor, The MIT Press, Cambridge Mass.,1984

Induced Employment: Induced employment is employment created because of expenditures by direct and indirect employees.

Multiplier Analysis: Analysis using economic multipliers in which indirect and induced economic impacts is quantified. Essentially, a multiplier number is applied to the "directly traceable economic impact" to produce indirect and total effects. (See Multiplier.)

Multiplier: Economic multipliers are used to infer indirect and induced effects from a particular sector of the economy. They come in a variety of forms and differ in definition and application. A multiplier is a number which would be multiplied by direct effects in order to calculate indirect or induced effects. In the case of the airport, as in many other cases, multipliers can lead to illusory results and thus must be used with great care.

Output: (also Economic Activity, Production) The end product of transforming inputs into goods. The end product does not necessarily have to be a tangible good (for example, knowledge), nor does it have to create utility (for example, pollution). Or, more generally, it is defined as the process of transforming the factors of production into goods and services desired for consumption.

Seasonality: Seasonality results when the supply and demand for a good is directly related to the season in which is consumed. For example, ski resorts experience changes in net income as a result of seasonality. Airports and airport services also experience seasonality as a result of vacation times for families (typically during the summer) and/or temperatures abroad (typically at Christmas time). As a result of seasonality in demand for flights, some air carriers increase frequency of flights to certain areas during the busy season.

Tenant: A firm which pays a lease to a leasing company (for example several freight forwarders pay lease payments to IAT) or to an airport authority directly.

Value-Added: (also value-added) A measure of the money value of final goods and services produced as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

Appendix 1: Employment Survey

Identification of the Survey Population

The 98 firms that received employment surveys for the Comox Valley Airport economic impact study included airport tenants and off-site firms directly related or dependent upon the airport. The region's tourism industry also received surveys with the exception of those involved in accommodation whose employment was determined using previous studies conducted. Comox Valley Airport Commission provided a list of airport tenants and hand delivered copies of the survey. Inter*VISTAS* Consulting used the yellow pages phone directory and online sources to identify off-site firms and tourism related companies.

Table A - 1: Total Number of Firms Surveyed

Type of Business	Number of Firms Surveyed	Number of Firms' Responses	Response Rate
Airport employers	17	16	94%
Ground Transportation	8	8	100%
Cargo/Couriers	4	4	100%
Tourism industry employers	69	47	67%
Total	*98*	*75*	*77%*

Questionnaire Design

The basic questionnaire was designed to be effective in obtaining information and, equally importantly, to be as clear and easy to understand as possible for respondent firms. The basic survey was provided to YQQ on-site employers. Three other surveys were developed for off-site employers, ground transportation and cargo/courier employment. The basic questionnaire provided to airport tenants contained questions in the following areas:

General Information

- Name of firm, address
- Contact person's name and title
- Phone and fax numbers
- Email and website address
- Type of business

Total Employment Numbers

- Total employees as of May 2007
- Total payroll excluding benefits, 2006
- Number of on-site employees
- Number of off-site employees

Part-time and Full-time Employment

- Full-time permanent employees
- Part-time permanent employees
- Full-time seasonal employees
- Part-time seasonal employees
- Average hours and weeks for part-time and seasonal employees

Employment by Trade

- A selection of job trades was provided to categorise employment

Copies of the surveys are provided in Appendix 2.

Conducting the Survey

The survey was either hand delivered or mailed out with a cover letter from Comox Valley Airport Commission. The letter explained the purpose of the study, the confidentiality of responses and encouraged members of the airport business community to participate. Postage paid envelopes were provided with all mail-out surveys.

Following the initial mail-outs and throughout the following months, non-responding firms were contacted by telephone to follow up. Firms were encouraged to return the survey and new copies were offered if the originals were lost. The replacement surveys were faxed instead of mailed.

Analysis of the Results

The survey results were compiled into a custom MS Excel database.

Appendix 2: Cover Letter and Sample Surveys

May 2007

To All Members of the Comox Valley Airport Business Community:

Re: Comox Valley Airport Economic Impact Study

A critical factor in winning community and government support for future construction and policy initiatives that benefit all airport-related businesses is our ability to demonstrate the significant economic contribution of Comox Valley Airport to our community and the province. Therefore, the Comox Valley Airport Commission (CVAC) is currently undertaking an economic impact study of the airport, and I am writing to you to ask for your assistance in conducting this study.

The last economic impact study of the airport was conducted in 2003, and was critical in obtaining government funding for the airport. Since 2003, traffic at the airport has grown by 60%, generating new jobs and business opportunities for the region. This new economic impact study, being conducted by InterVISTAS Consulting Inc., will document the increased economic contribution of Comox Valley Airport.

We are seeking your co-operation and participation in the attached employment survey. InterVISTAS has completed several projects for us and please be assured that your responses will be treated with confidence. To keep this initiative on time and on budget, we request that you complete this survey as soon as possible.

We appreciate that some of the information requested in the survey may be of a sensitive nature to your firm. By using the postage paid envelope addressed to InterVISTAS Consulting or by faxing the completed survey to 1-604-717-1818, you may be assured that CVAC will not view your completed survey. Inter*VISTAS* Consulting will maintain the confidentiality of your survey response. Only the aggregate survey totals will be provided in the final report. The published document will not reveal employment figures for any individual firms.

The survey component of the economic impact study is under the supervision of Angelica Sparolin at InterVISTAS Consulting Inc. Should you have any questions regarding the study, or completing the survey, please contact her at 1-877-717-6246 (ext. 1817).

Thank you for your co-operation in this important study. We all look forward to the study results, as they will benefit all members of the Comox Valley Airport business community.

Sincerely,

Chuck Fast
CEO, Comox Valley Airport Commission

Comox Valley Airport

Employment Survey May 2007

The figures you provide in the following sections are strictly confidential and will be viewed only by Inter*VISTAS* Consulting and reported only in an aggregate form. For the purposes of this study, it is important that the figures you provide are as accurate and current as possible. **When answering the questions below regarding your business, please include all related subsidiary businesses.**

Name of Firm: _____

Address of Firm: _____

City, Province: _____ Postal Code: _____

Contact Person: _____ Phone number: _____

Email: _____

Q1a. Location of Firm

Please indicate the general location of your firm:

❑ Comox Valley Airport Lands

❑ Other, please specify: _____

Q1b. Business Related to Comox Valley Airport

Please estimate the amount of your business that is related to Comox Valley Airport. We realise that your firm may not be located directly at Comox Valley Airport. However, some or all of your business may be related to cargo or passenger traffic at the airport, or related in some other way to the airport. We wish to include your firm in our assessment of the economic impact of Comox Valley Airport.

Comox Valley Airport Related Business: (as of May 2007)	%

Q2. Property Taxes

Please indicate the amount your firm paid in property taxes in 2006 to the local municipal government.

Property Taxes Paid: (2006)	$

Comox Valley Airport
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Q3. Type of Business (check one only)

If you are involved in more than one of the businesses below, please choose the one that best describes your business.

Air Carriers

- ❑ 1. Scheduled Canadian Carrier
- ❑ 2. Scheduled Non-Canadian Carrier
- ❑ 3. Charter Carrier
- ❑ 4. Helicopter
- ❑ 5. Air Taxi
- ❑ 6. Other type of air carrier: _____

Other Business Types

- ❑ 7. Facility Operator
- ❑ 8. Freight Forwarder, Cargo Agent, etc.
- ❑ 9. Customs Broker
- ❑ 10. Aircraft Maintenance
- ❑ 11. Aircraft Handler
- ❑ 12. Fuelling Company
- ❑ 13. Fixed Base Operator (FBO)
- ❑ 14. Aircraft Parts Supplier
- ❑ 15. Aviation Related Manufacturing
- ❑ 16. Aviation Related Training
- ❑ 17. Catering
- ❑ 18. Security Firm
- ❑ 19. Taxi, Bus, Passenger Transport
- ❑ 20. Car Rental
- ❑ 21. Airport Retail Outlet, Restaurant, etc.
- ❑ 22. Government Agency/Department
- ❑ 23. Air Traffic Control
- ❑ 24. Other: _____

Q4. Total Employment

Please state the total number of employees you have at present. **This figure should include full time, part-time and seasonal work, as well as employees working on contract.**

Total Number of Employees: (as of May 2007)	

Comox Valley Airport
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Q5. On-site versus Off-site Employees

For the purpose of this study, on-site workers are employees who work on airport land. Off-site employees are those that do not work on airport land, but are primarily performing airport or aviation related duties (e.g., airline sales representatives at a downtown office). Of the total number of employees listed in Q4, how many work on-site and how many work off-site?

Number *or* % Of Employees *On-Site*:	
Number *or* % Of Employees *Off-Site*:	

Q6. Part-Time and Full-Time Employees

A. Permanent Employees: A permanent employee is one that works year round. In reference to the number of total employees in Q4, how many are permanent employees and how many are full-time and how many are part-time?

Number of Full-Time Permanent Employees:	
Number of Part-Time Permanent Employees:	
Total Permanent Employees:	

For part-time employees, on average, how many hours per week will they work this year?

# of Weekly Hours:	

If it is difficult to obtain this information or if there is great variation, you may provide a range of weekly hours (i.e., less than 10 hours, 10-15 hours, etc).

B. Seasonal Employees: A seasonal employee is one that is hired for work during peak or specific time periods only. In reference to the number of total employees in Q4, please indicate how many are seasonal full-time and part-time employees (2007)?

Number of Full-Time Seasonal Employees:	
Number of Part-Time Seasonal Employees	
Total Seasonal Employees	

For seasonal workers, on average, how many **weeks** will they work this year (2007)?

Number of Weeks Per Year:	

For part-time seasonal workers, on average, how many **hours per week** will they work this year (2007)?

Number of Weekly Hours:	

If it is difficult to obtain this information or if there is great variation, you may provide a range of weekly hours (i.e., less than 10 hours, 10-15 hours, etc).

THE SUM OF THE PERMANENT AND SEASONAL EMPLOYEES LISTED IN Q6A AND Q6B SHOULD EQUAL THE NUMBER OF TOTAL EMPLOYEES IN Q4.

Comox Valley Airport
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Q7. Employment Payroll

If available, please indicate your firm's total 2006 payroll.

Total Annual Payroll: (Excluding employee benefits, 2006 figures)	$

Q8. Employment by Trade

In order to reflect the diversity of employment at the airport, please provide us with a breakdown of your total payroll employees, by position.

Employment by Trade		**Number *or* % of Employees**
General	Managerial/Supervisory	
	Clerical	
	Craft Trades (Electricians, Steam Fitters, etc.)	
Airline & Airline Servicing Trades	Pilots	
	Flight Attendants	
	Aircraft & Vehicle Mechanics	
	Customer Service Agents	
	Aircraft Servicing	
Support Trades	Security Agents	
	Food Service Workers	
	Drivers / Delivery / Couriers	
	Dispatchers	
	Call Centre / Reservations	
	Air Traffic Control	
Retail Trades	Sales / Cashiers	
	Food & Beverage Staff	
Other (Please specify)		

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Q9. Cargo Related Business

We would like to be able to document the impact of the airport's air cargo services. Please help us by indicating what portion of your business is involved in servicing air cargo.

9a. Please estimate the proportion of your business that can be attributed to air cargo related activities?

Air Cargo Related Business: (as of May 2007)	%

9b. Approximately how much cargo did you move to or from Comox Valley Airport in 2006?

_____ lbs or kgs (circle one)

9c. Is your cargo business at Comox Valley Airport seasonal?

❑ Yes ❑ No

9d. If yes, what are the busiest months and what factors influence traffic?

9e. If you are a courier, which air carrier(s) do you use to transport cargo to or from Comox Valley Airport?

9f. What is the general nature of the cargoes (e.g., mail versus other)?

Thank you for your assistance in completing this survey.
Please return this survey using the envelope provided, or by fax to:

Attention: Angelica Sparolin, Fax: (604) 717-1818

If you have any questions, please call Angelica Sparolin at 1-877-717-6246 (ext. 1817)

Appendix 3: Calculation of Person Hours Per Year

The following are details of calculations for the average number of hours per person year (PY).

Calculation of person hours per year:		
	365	days per year
Less:	(104)	weekend days
	(11)	legal holidays
	(15)	average vacation days
	(6)	sick leave
	229	days per person year
	* 8	hours per work day
	1,832	hours per person year

Workdays vary anywhere from 6.5 to 8 hours; however, in order to be conservative, an 8-hour workday was assumed.[21] Similarly, numbers of vacation and sick leave days may also vary.

[21] Essentially, we are using a measure of paid hours per year. Using a measure of productive hours per year with 6-1/2 hour workdays (8 hours less 1 hour for lunch less two 15 minute work breaks) would give 1,489 hours per person year. Using this lower figure would result in inferring a greater number of person years from seasonal and part-time jobs. Using the 1,832 figure, we infer a lower number of person years.

Appendix 4: Summary of Total Jobs and Person Years

Total Jobs and Person Years		
	Jobs	Person Years
Airport employment surveyed[1]	189	158
Airport employment inferred[2]	4	4
Sub-Total	*193*	*162*
Tourism related employment surveyed[1]	1,326	686
Tourism related employment inferred[2]	131	80
Accommodation employment	9,681	8,170
Total	*10,110*	*7,722*

[1] Appendix 5

[2] Appendix 6

Appendix 5: Employment Breakdown

Person Years

	Business Type	Permanent Full-time	Permanent Part-Time	Seasonal Full-time	Seasonal Part-Time	Inferred / Other	Total Employment
Airport Related Employment	Air Carrier	13	18	1	<1	<1	31
	Facility Operator, Security & Government	38	7	-	-	0.1	46
	Aircraft Handler & Maintenance	6	8	-	-	-	14
	Food/Beverage, Retail & Car Rental	19	14	-	-	-	33
	Couriers	32	3	-	-	-	35
	Ground Transportation	-	-	-	-	4	4
	Airport Sub-Total	108	49	1	<1	4	162
Tourism Related Employment	Fishing	17	5	14	2	20	57
	Golf	142	6	63	27	33	271
	Outdoor Adventure	25	9	17	5	27	83
	Ski	67	17	98	173	0	355
	Accommodation					8,170	8,170
	Tourism Sub-Total	251	37	192	206	8,250	8,936
	TOTAL	359	86	193	206	8,253	9,098

Jobs

	Business Type	Permanent Full-time	Permanent Part-Time	Seasonal Full-time	Seasonal Part-Time	Inferred / Other	Total Employment
Airport Related Employment	Air Carrier	13	27	3	1	-	44
	Facility Operator, Security & Government	38	14	-	-	-	52
	Aircraft Handler & Maintenance	6	9	2	-	-	17
	Food/Beverage, Retail & Car Rental	19	22	-	-	-	41
	Couriers	32	3	-	-	-	35
	Ground Transportation	-	-	-	-	4	4
	Airport Sub-Total	108	75	5	1	4	193
Tourism Related Employment	Fishing	17	8	36	8	36	105
	Golf	142	9	129	67	49	396
	Outdoor Adventure	25	14	43	14	46	142
	Ski	67	20	231	496	-	814
	Accommodation	-	-	-	-	9,681	9,681
	Tourism Sub-Total	251	51	439	585	9,812	11,138
	TOTAL	359	126	444	586	9,817	11,332

Appendix 6: Inferred Employment

This appendix describes how employment was inferred for non-responding airport employers.

Our approach was to utilise information from responding firms for each type of business and use it, along with publicly available information on individual non-responding firms, to make inferences. This approach is generally deemed to be the best approach, and indeed, is often used for developing the national income and products account (i.e. partial survey with inference for non-surveyed or non-responding firms based on responses of surveys received). Our approach was conservative in that, unlike the national income and products account inference, we assumed that the non-responding firms were smaller than respondents.[22]

Inferred employment was based on employment information from firms in each business type that responded to the survey. The mean employment of respondents in each business type was calculated, excluding outliers, and then adjusted downwards. For example, especially large firms were excluded from the "mean without outliers" and then this was reduced by at least 30% to obtain conservative results. This "adjusted mean" employment for each business type was then applied to the non-respondent firms.

Appendix 5 provides the breakdown of surveyed and inferred employment for each business type.

[22] As with the national income and products account approach, we recognise and discard outliers in the survey respondents when making inferences for non-respondents.

Appendix 8: Tax Revenues Attributable to Airport and Tourism Employers

Introduction

This appendix describes the employment and other assumptions on which tax revenues calculations are based. As well, the approaches used to estimate employer and employee contributions to local, provincial and federal governments are presented. All estimates are for the 2006 calendar year unless otherwise stated.

Some of the taxes pose conceptual questions about how much, or if any, tax revenue from a particular source should be attributed to firms serving the Comox Valley Airport. These questions are highlighted and simplifying assumptions are put forth.

Employment in the Comox Valley Airport and Tourism Business Community

The majority of tax calculations in this report depend on direct employment and total wages. The total direct employment (in person years) used for these calculations is 9,100 person years. The total payroll is estimated at $237 million.

Personal Income Tax (Federal and Provincial)

Tax base and rates. Under the *Income Tax Act* federal income tax is paid on taxable income at a rate that increases with taxable income. A federal surtax applies on top of the basic federal tax. The surtax applies to all taxpayers but is charged only on tax above the minimum level.

Provincial income tax was formerly calculated as a percentage of federal tax, but most provincial governments have begun collecting taxes on a sliding scale. British Columbia uses the sliding scale method. Table A-2 shows the provincial and federal income tax rates for 2006.

Table A - 2: Personal Income Tax Rates For 2006

Federal - Basic Tax			
Income Range:	$0 to $36,378	Tax Rate:	15.25%
	$36,379 to $72,756		22.00%
	$72,757 to $118,285		26.00%
	Over $118,285		29.00%
British Columbia - Basic Tax			
Income Range:	$0 to $33,755	Tax Rate:	6.05%
	$33,756 to $67,511		9.15%
	$67,512 to $77,511		11.7%
	$77,512 to $94,121		13.7%
	Over $94,121		14.7%

Estimation Method and Results

Because the tax rate is progressive, the tax paid by a group of employees depends on the distribution of income among those employees. Unfortunately, the distribution of income is not known and average incomes must be used. This leads to an underestimate of taxes paid.

Each employee is assumed to pay tax as a single tax filer. Table A - 3 shows the estimated average incomes for employees at Comox Valley Airport. Estimated income tax payable is $19.6 million in federal tax and $8.1 million in provincial tax.

Table A - 3: Income Tax Revenues

			Average Income Tax Rates (%)		Estimated Income Tax ($m)	
	Business Type	Payroll($M)	Federal	Provincial	Federal($m)	Provincial ($m)
Airport Related Employment	Air Carrier	$1.4	11.7%	4.3%	$0.2	$0.06
	Facility Operator, Security & Government	$1.5	8.3%-14.2%	3.4%-4.6%	$0.1	$0.05
	Aircraft Handler & Maintenance	$0.6	8.3%-11.7%	3.4%-4.3%	$0.1	$0.02
	Food/Beverage, Retail & Car Rental	$0.7	8.3%	3.4%	$0.1	$0.03
	Ground Transportation & Couriers	$1.1	8.3%	3.4%	$0.1	$0.05
	Airport Sub-Total	$5.6			$0.5	$0.2
Tourism Related Employment	Fishing	$2.3	8.3%	3.4%	$0.2	$0.1
	Golf	$7.0	8.3%	3.4%	$0.6	$0.2
	Outdoor Adventure	$3.1	8.3%	3.4%	$0.2	$0.1
	Ski	$8.6	8.3%	3.4%	$0.7	$0.3
	Accommodation	$210.0	8.3%	3.4%	$17.3	$7.2
	Tourism Sub-Total	$231.0			$19.1	$7.9
	TOTAL	$236.6			$19.6	$8.1

The average tax rates used in Table A - 3 are derived from the more detailed calculations of taxes payable shown in Table A - 4. In those calculations, assumptions have been made about income from non-employment sources, tax deductions from income (e.g. RPP and RRSP contributions), and tax credits applied against tax otherwise payable (e.g. CPP, EI and charitable contributions). Average deductions credits are calculated from Canada Customs and Revenue Agency, Income Statistics 2006.

Table A - 4: British Columbia Single Tax Filer Income Tax Calculation - 2006

Income					
Employment	20,000	40,000	60,000	80,000	100,000
Other	2,000	4,000	6,000	8,000	10,000
TOTAL	22,000	44,000	66,000	88,000	110,000
Deductions					
RPP	25	390	999	1,767	1,376
RRSP	338	1,263	2,225	3,756	7,809
Carrying Charges	76	133	211	347	1,073
Union	37	180	375	527	257
TOTAL	475	1,966	3,810	6,397	10,515
Taxable Income	21,525	42,034	62,190	81,603	99,485
Credits					
Basic	8,839	8,839	8,839	8,839	8,839
CPP	437	1,192	826	1,567	1,517
EI	180	465	1,455	594	492
Charity	159	318	531	707	1,424
TOTAL	9,616	10,814	11,650	11,708	12,273
Federal Credits	1,466	1,653	1,842	1,902	2,196
Provincial Credits	551	634	703	722	818
Tax Payable					
Federal - Bracket 1	3,283	5,548	5,548	5,548	5,548
Federal - Bracket 2	0	1,244	5,679	8,003	8,003
Federal - Bracket 3	0	0	0	2,300	6,950
Federal Total	3,283	6,792	11,226	15,851	20,500
Federal Total minus Credits	1,816	5,139	9,384	13,949	18,304
BC - Bracket 1	1,302	2,042	2,042	2,042	2,042
BC - Bracket 2	0	501	1,720	3,089	3,089
BC - Bracket 3	0	0	0	1,170	1,170
BC - Bracket 4	0	0	0	561	2,276
BC - Bracket 5	0	0	0	0	789
BC Total	1,302	2,543	3,762	6,861	9,365
BC Total minus Credits	751	1,909	3,060	6,140	8,547
TOTAL TAX PAYABLE	2,567	7,048	12,444	20,089	26,852
Average Rate of Tax	11.7%	16.0%	18.9%	22.8%	24.4%
Federal	8.3%	11.7%	14.2%	15.9%	16.6%
Provincial	3.4%	4.3%	4.6%	7.0%	7.8%

Source: Deductions and credits based on Canada Customs and Revenue Agency Income Statistics 2006, Basic Table 2 – British Columbia, All Returns by Total Include Class.

Corporate Income Tax (Federal and Provincial)

Tax base and rates. All corporations are liable to pay federal income tax under the *Income Tax Act*. The tax rate varies by type and size of company and by province. In addition, a 4% surtax is applied on all corporate income tax payable. Provincial governments also levy a corporation income tax on any company having a permanent establishment in that province. Table A – 5 shows the 2006 corporate tax rates.

Table A - 5: Federal Corporation Income Tax Rates - 2006

Federal Corporation Tax Rates	
General Business	21%
Small Business	12%
Surtax	4%
British Columbia Provincial Corporation Tax Rates	
General Business	12.0%
Small Business	4.5%

Estimation Method and Results

To calculate tax liability precisely is very difficult. It requires knowledge of the total tax base and the proportion of the tax base attributable to the provinces. Therefore, an approximate method has been used.

1. In B.C., the federal corporate income tax collected per employee was $1,946 and provincial corporate income tax collected per employee were $698 in 2006.

2. Assuming all companies pay tax at the average rate per employee calculated above, the 2006 corporation income tax liability of the Comox ACA employment sector is estimated to be $17.7 million toward federal revenues and $6.3 million toward provincial revenues. The estimated total corporate income tax revenue is $24 million as shown in Table A – 6.[23]

[23] Comox Valley Airport Commission and government agencies are exempt from paying corporate income tax. However, since the estimation of corporate income tax paid per employee encompasses all employment in B.C., including employment at entities that are exempt from corporate income tax, these firms have not been excluded for the purposes of this study.

Table A - 6: Estimated Corporate Income Tax Paid by the YQQ and ACA Tourism Business Community

Government	Revenue ($ millions)
Federal (Millions)	$17.7
Provincial (Millions)	$6.3
Total	*$24.0*

Employment Insurance Premiums

Tax base and rates. In 2006, employees in Canada paid employment insurance (EI) premiums equal to 1.87% of earnings up to a maximum of $729 per year. (Maximum insurable earnings are $39,000) Employers paid EI premiums equal to 1.4 times employee premiums.

Estimation Method and Results

The employee premium rate is applied to total payroll costs for employees earning less than $39,000 per year. The maximum contribution was used for employment earning more than $39,000 per year. Estimated employee payments were $4.4 million in 2006.

The employer rate is applied to the employee payments. Estimated employer payments were $6.2 million in 2006.

Canada Pension Plan contributions

Tax base and rates. In 2006, employee contributions for the Canada Pension Plan (CPP) were 4.95% of pensionable earnings. Pensionable earnings are actual earnings less $3,500, to a maximum of $38,600. The maximum annual employee contribution is $1,910.70. The employer contribution is the same as the employee contribution.

Estimation Method and Results

The employee contribution rate is applied to average payroll for employment earning less than $36,400 a year. The maximum contribution was used for employment earning more than the maximum pensionable earnings.

Estimated employer and employee contributions are $11.7 million each, for a total of $23.4 million.

Workers' Compensation Board Contributions

Tax base and rates. Employers in each province are required to make contributions to the Workers' Compensation Board to help offset the cost of on-the-job injuries. Employers are classified into industry groups. The contribution rate for each group is based on the injury costs associated with all companies in that group.[24] The group contribution rate varies widely among industries and provinces, with an aggregate average rate of $1.90 in 2006.[25]

Some major companies are not included in the general "rateable" method of contribution, but simply pay the actual cost of their claims plus an allowance for WCB administration costs. As it is not generally known which firms contribute in this manner, nor the value of their claims, an estimate based on reported payroll has been made for all firms.

Conceptual issues. It is possible that some companies are self-insured and their payments could be viewed as a business expense rather than a tax. However, we have chosen to include their contribution because they are required to be part of this government-mandated program.

Estimation Method and Results

The contribution rates for each employment classification at the airport have been applied to the total payroll for that group, to the maximum assessable wage per employee of $62,400 for British Columbia. Comox airport and tourism industry ACA employees paid an estimated $4.1 million to Worker's Compensation in 2006.

Property Taxes Collected by Local Government

Local governments levy property taxes to help them finance local services. Rates for various categories of property (e.g., residential, business, industry, recreation, etc.) are applied to the assessed value of a particular property, as determined by BC Assessment. Property taxes also include some taxes which are collected on behalf of the provincial government, such as school taxes.

Property taxes paid by Comox Valley Airport Commission for the Comox Valley Airport totalled $68,663 in 2006. Based on data provided by CVAC and tax rates published by the Town of Comox 2006, airport tenants paid an estimated $14,500 in property taxes in 2006. In total, the airport and its tenants paid approximately $83,000 in property taxes in 2006.

[24] Subject to Experience Rating Adjustment for individual companies.

[25] Workers Compensation Board of British Columbia.

Appendix 9: Tax Revenues Attributable to Airport Users and Visitors

YQQ Passengers in 2006

In 2006, approximately 238,600 passengers enplaned and/or deplaned at YQQ.

Table A - 7: 2006 Passenger Movements

	Enplaned Plus Deplaned 2006
Passengers	238,612
Daily Average	564

Sources: YQQ E/D passengers for 2006 from Comox Valley Airport Commission.

GST on Air Fares and the Airport Improvement Fee (AIF)

Tax base and rates. The Goods and Services Tax (GST) applies to all tickets purchased in Canada for flights within the 'taxation area' and includes, therefore, all domestic flights and all transborder flights to the continental United States. Air services to overseas destinations are zero-rated for GST purposes.

CVAC charges all passengers originating their journey at YQQ an Airport Improvement Fee (AIF) that is collected for the sole purpose of funding capital improvements at the airport. GST is levied on the fee.

Conceptual issues. GST levied on the airfare should be shared among airports in Canada associated with the journey. The estimation method builds in a sharing assumption (50% YQQ and 50% other Canadian airports). The GST rate was lowered from 7% to 6% on July 1, 2006. An average rate of 6.5% has been applied to the annual figures.

Estimation Method

GST is levied on all domestic airfares; however, due to the sharing assumption stated above, only 50% of the estimated GST per departing passenger is attributable to YQQ. All GST paid by transborder passengers can be attributed to YQQ, as the tax need not be "shared" with the American airport. However, GST is levied only on the transborder passengers who purchase their tickets in Canada which are assumed to be the outbound portion, estimated at 50%. The total GST on airfares is estimated to be $1.8 million.

CVAC collected approximately $611,200 through the AIF in 2006. GST revenue on this amount is approximately $39,700.

GST on the Air Traveller Security Charge (ATSC)

The Canadian Government enacted the Air Traveller Security Charge (ATSC) on April 1, 2002 to help fund security improvements at airports across Canada as a result of the terrorist attacks on September 11, 2001. There is a flat rate fee of $4.67 (one-way) for domestic trips, $7.94 (one-way) for transborder and $17 (return or one-way) international travel.

Tax base and rates. The Goods and Services tax applies to the domestic and transborder ATSC, but not to the ATSC on international flights. The GST rate was lowered from 7% to 6% on July 1, 2006. An average rate of 6.5% has been applied to the annual figures.

Estimation Method

1. The volume of origin/destination traffic at YQQ was determined. It was assumed that 50% was origin traffic at YQQ.

2. A total of $33,700 in GST was collected on domestic and transborder travel.

GST on Passenger Spending at the Airport (Food & Beverage, Retail, Ground Transportation, Parking and Car Rentals)

The GST rate applies to spending at the airport on goods and services such as food & beverage, retail, taxi, shuttle, parking and car rentals. A 7% PST also applies to retail purchases and car rentals, and an additional daily car rental tax of $1.50 is levied per day.

Estimation Method

Based on the information provided by the airport and additional estimates on ground transportation usage, GST collected on food, beverage, retail, parking and ground transportation amounted to approximately $228,000, while PST amounted to $334,700.

GST and Provincial Tax on Hotel Accommodation

Tax base and rates. The 7% GST rate applies to hotel accommodation. The Province of B.C. also levies an 8% tax on the purchase price of short-term accommodation. Municipal governments may also ask the Province to levy an additional tax of up to 2% in specified areas on behalf of local tourism organisations. Municipalities included in the study which charge the additional 2% tax in 2006 include: the Regional District of Nanaimo, the City of Parksville, the District of Port Hardy, the Town of Qualicum Beach and the District of Tofino.

Estimation Method

In 2006, BC Stats reported total hotel revenues of $135 million for the ACA. GST and PST charged on these revenues amount to $9.5 million and $10.8 million, respectively, while the additional hotel amounted to just over $0.9 million.

Appendix 10: Estimating Potential Tourism Economic Impact of the Best Case Scenario

This appendix identifies the data used in the analysis of potential tourism economic impact and demonstrates the calculations.

METHODOLOGY: Apply Spend Rates to Incremental Visitors

The expenditure impacts of *best case* visitors are used as a measure of increased demand for tourism industry output in the ACA. The employment, wage and value-added impacts were inferred using Statistics Canada economic multipliers.

Estimated expenditures of best case incremental air visitors to the ACA depend, in turn on:

- The number of Comox Valley Airport visitors expected to arrive in the best case forecast;
- Comox Valley Airport visitors' average trip duration; and
- The average Comox Valley Airport visitor's expenditures per day.

Best Case incremental Comox Valley Airport visitors. Incremental passengers were calculated based on round trips (i.e., counted only once for each round trip flight involving one enplanement and one deplanement). For each service, an estimate of the ACA resident-outbound proportion of the incremental passenger volumes was removed to leave the number of incremental non-resident visitors.

Table A - 8: Total Estimated Incremental Visitors

Service	Passengers	Non-Resident Passengers	Total Visitors
Domestic	86,800	60%	52,100
U.S. Scheduled	37,700	60%	22,600
U.S. Charter	10,200	5%	500
Sunspot Charter	13,600	5%	700
Europe Charter	18,400	25%	4,600
		Total Visitors	*80,500*

Average duration of stay. The length of stay may vary depending on trip purpose. Visitors to the region are assumed to be travelling for leisure purposes. The total visitor nights and trip purpose data used to calculate the total future tourism expenditures are provided in Table A - 9.

Table A - 9: Visitor Length of Stay, by Market & Total Nights

Service	Average Leisure Visit Duration	Visitors	Total Visit Nights
Canadian	3.1	52,100	161,500
U.S.	4.7	23,100	108,700
International	6.2*	5,300	32,400

Sources: Canadian Travel Survey 2004 - Statistics Canada, Catalogue no. 87-212 and International Travel 2005 - Statistics Canada Cat. 66-201.
*Note: International trip duration has been divided by two, assuming that half of the visit duration is spent outside of the ACA.

Average visitor's expenditure per day. The average daily expenditures are considered to be a conservative means to estimate total expenditures of best case visitors. The average expenditures for domestic travel were calculated from a travel survey of all travel modes. The spend rates of visitors using the air mode are expected to be higher than visitors driving into the ACA. The average estimated spend rates for passengers are presented for each of the best case new air services in Table A - 9.

Table A - 10: Average Spend Rates

Service	Average Leisure Spend per Day	Sources
Canadian	$100	Pleasure spend is for domestic trips by Canadians, Canadian Travel Survey 2004 - Statistics Canada, Catalogue no. 87-212.
U.S.	$185	U.S. Average spending per night by plane to Canada, International Travel 2005 - Statistics Canada Cat. 66-201.
International	$123	International Average spending per night for 'other pleasure, recreation or holiday' to Canada, International Travel 2005 - Statistics Canada Cat. 66-201.

Best case tourism expenditures. The best case total tourism expenditures were estimated by multiplying the average visit duration and average spends per night to the best case Comox Valley Airport visitors, as shown in Table A - 11.

Table A - 11: Average Visitor Spend Rates

Service	Visitors	Average Duration	Spend per night	Total Spend ($ millions)
Domestic	52,100	3.1	$100	$16
U.S.	23,100	4.7	$185	$20
International	5,300	6.2*	$123	$4.0
TOTAL	80,500	-	-	$40

*Note: International trip duration has been divided by two, assuming that half of the visit is spent outside the ACA.

Expenditures to economic impact. The total expenditures were broken down into components according to the distribution reported by Statistics Canada. These distributions are shown in Table A–12. The components were organised into the industries which would be directly impacted by the spending. The resulting potential future economic impacts that result are reported in Table A–13.

Table A-12: Distribution of Visitor Expenditures

Service	Accommodation	Transportation*	Food and Beverages	Recreation & Entertainment	Other (Souvenirs, Shopping, etc.)	Total
Domestic	23	24	29	8	16	100%
U.S.	39	13	23	13	13	100%
International	28	14	23	10	25	100%

Sources: Canadian Travel Survey 2004 - Statistics Canada, Catalogue no. 87-212 and custom run based on International Travel 2005 - Statistics Canada Cat. 66-201.
Note: *For U.S. and international visitors, the data includes all transportation spending in Canada; for domestic visitors, the data includes transportation spending other than inter-city travel.

Table A-13: Estimated Best Case Economic Impacts of Tourism

Type of Impact	Jobs	Person Years	Wages ($ millions)	GDP ($ millions)	Output ($ millions)
Direct	800	640	$16	$20	$40
Indirect	160	130	$3	$9	$20
Induced	70	60	$2	$4	$7
Total	1,030	830	$21	$33	$67