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ECONOMIC IMPACT STUDY of the PEACE RIVER AIRPORT



Updated By



The Mackenzie Municipal Services Agency

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**ECONOMIC IMPACT STUDY
OF
THE PEACE RIVER AIRPORT**

**MACKENZIE MUNICIPAL SERVICES AGENCY
FEBRUARY, 1997**

EXECUTIVE SUMMARY

The Peace River Airport Economic Impact Study has been prepared to provide the Town of Peace River and surrounding region with insight on the economic and social significance of the Peace River airport.

The Peace River Airport is a significant transportation centre which provides scheduled and charter carrier operations for a region with a population of approximately 33,000. This is a convenient facility for the region, providing accessible air transportation.

In 1995 the Peace River Airport handled 28,491 enplaned and deplaned passengers and recorded 15,113 aircraft movements. This has declined since the peak years during the construction of the Daishowa-Marubeni International Ltd. (DMI) Peace River Pulp Mill. The levels achieved during these peak years could be realized again if the proposed DMI Paper Mill reaches the construction phase.

Peace River Airport facilities are considered first rate. It is a modern, well designed terminal built to institutional standards in 1984. The terminal provides a full range of amenities for the travelling public as well as the businesses which use the facilities. The airport also has land available to accommodate another 25 to 30 airside lots for future expansion. This should be adequate to accommodate future development well in to the next century.

Information for direct, indirect and induced economic activity was derived from questionnaires provided to airport related businesses. The information received from these questionnaires has been documented in this study in terms of overall economic output, employment and labour income.

In 1995, the Peace River Airport had a gross economic output of 50 million dollars, employment at 161 person-years and labour income at 6 million dollars. Leakages to external economies are an intrinsic feature of the aviation industry. By calculating the amount of leakage to external economies we can determine a more accurate impact on the region that is attributed to the Peace River Airport. The impact attributed to the airport in 1995 was:

- gross economic output - 20.0 million dollars
- employment - 119.2 person-years
- labour income - 4.0 million dollars

It is important to note that with the proposed construction of the DMI paper mill, the figures for output associated with the airport could reach the levels seen during the construction phase of the DMI pulp mill in the late 1980's. With the tight fiscal controls, an increasing revenue per passenger and the possibility of a substantial increase in passengers, the airport seems to be heading towards financial independence and stability.

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND

The Town of Peace River is located 490 km northwest of Edmonton, roughly 200 km northeast of Grande Prairie. The Town is connected by an excellent road system to Edmonton and to northeastern British Columbia. A CN rail link runs south to McLennan then branches to Edmonton via Slave Lake or to Grande Prairie. The rail connection from Grande Prairie west to Dawson Creek currently is not in operation while discussions over the repairing of the Watino Bridge tracks take place. The modern Peace River Airport is an important aviation and commercial facility providing the closest significant aviation centre for the Town of Peace River and the surrounding Peace River Region. The total population base served by the airport is estimated at approximately 33,000.

The Peace River Airport is used by scheduled and charter carrier operations and by corporate, government, general aviation and recreational aircraft. Several charter firms of considerable size relative to other Alberta based aviation firms are located at the airport. These charter firms are primarily oriented towards helicopter operations. Through its activities as a transportation and commercial centre, the Peace River Airport provides direct and indirect employment to the local economy. The payroll and expenditure for goods and services generated by the local aviation community have a positive direct and secondary effect on the economy of the region. In addition, the airport provides the community with convenient nearby access to air transportation. This is an important factor of considerable value in expediting local commerce, in attracting new industries and in facilitating social links between the community and other centres within Alberta and Canada. The inherent value of this intangible factor to the community should not be underestimated.

In 1995 the Peace River Airport handled 28,491 enplaned and deplaned passengers and recorded 15,113 aircraft movements. Based on 1995 figures, Peace River Airport placed

76th in enplaned and deplaned passengers in Canada and 8th in Alberta. This was an increase of 10.1% from 1994, moving the airport up 5 places on the Canada-wide ranking. It is important to note that charter company figures for enplaned and deplaned passengers are not included in this total and the actual number could be as high as approximately 33,400 passengers. By looking at the Peace River Airport's ranking by enplaned and deplaned passengers on major scheduled services only, it is ranked 39th in Canada and 6th in Alberta. This may be a much more representative rank of Peace River Airport's actual volume.

The airport, which is located in the Municipal District of Peace No. 135, was originally owned by Transport Canada and leased to the Town of Peace River for over 35 years. On September 1, 1996 ownership of the airport was transferred over to the Town of Peace River.

1.2 OBJECTIVES

The primary objectives of this study are:

- a) To identify the direct and indirect economic output of the Peace River Airport;
- b) To identify the direct, indirect and induced employment created by the Peace River Airport;
- c) To forecast the possible direction the Peace River Airport will take into the year 2000; and
- d) To analyze the economic and social impact of the Peace River Airport in the area.

1.3 METHODOLOGY

Research began with a literature review and a review of the 1990 Peace River Airport Economic Impact Study by the Institute for Transportation Studies from the University

of Calgary. Information was obtained for this impact study from the Peace River Airport, Alberta Economic Development and Tourism, Statistics Canada and the many businesses who are connected to the airport. Aggregate data was obtained from the surveys sent out to the various businesses who were identified as benefitting from direct or indirect commercial activity with the airport. In addition, some businesses were consulted by phone to add prudent information to the data. The survey and consultation was structured to gain the direct and indirect economic and social factors related to the airport.

1.4 ECONOMIC PROFILE OF THE TOWN OF PEACE RIVER

The Town of Peace River serves as a focal point for a large trading area. The region covers an area of approximately 12,500 km² and includes a number of towns, villages and municipal districts. On a larger scale, the Peace River trading area can be considered a part of a larger trading area for bigger communities.

The population of the Town of Peace River and its trading region is approximately 33,000 persons. The Peace River Airport will remain the airport for the immediate area, but because of its size it will not be able to attract the level of direct flight services that the larger populated regions like Grande Prairie and Dawson Creek can. The services provided by the Peace River Airport will likely continue to be for local commuting and not for international travel.

The Town of Peace River has experienced a population increase from 5,900 persons in 1980 to its present size of 6,717 persons. This growth of approximately 12% over the past 14 years. The Town of Grimshaw, located 25 kilometres west of Peace River, has seen a population growth of approximately 25% over the past 14 years. Grimshaw has grown from 2,100 persons in 1980 to a present population of 2,812 persons. The reason for the strong growth rate in Grimshaw occurs mostly due to competitive housing prices and a short commute to Peace River. It has spawned into a satellite community for Peace River, with many people residing there and commuting to Peace River. The Municipal District of Peace No.135 and the surrounding rural areas have experienced stable population over the past 20 years.

The Town of Peace River's economy comprises mainly of public administration (government agencies), commercial services, personal services, technical services, retail trade, construction and transportation. Two of the largest employers in the region are the Daishowa-Marubeni International Ltd. (DMI) Peace River Pulp Mill and Shell Canada. The DMI Pulp Mill opened in September 1990 and employs 385 employees. Shell Canada employs roughly 80 workers in the region. Estimates from both of these companies suggest that the majority of their employees reside within the Town of Peace River.

The service sector in the region is getting more diversified as the population of the region grows and as technology improves, even though the local economy is still mostly tied to the resource extraction and agricultural activities. Because of the region's diversification and the high proportion of government and professional service workers, the economy has been able to ride out the periodic boom and bust cycles of the resource industries.

Peace River is one of the major service centres for the area's agricultural industry and the business community is actively working towards furthering the Town's role as a forestry support centre. The region is also exhibiting a considerable amount of tourism potential with the scenic river valley and wilderness, museums, parks, good hunting and fishing and through the active promotion of the "Deh Cho" route which loops through Alberta's Peace Region, the Northwest Territories and Northern British Columbia. There are also deposits of high grade silica and iron ore which show possible development promise. Currently under discussion is an expansion project for one of the largest companies in the area. The plan by DMI is to expand their operations to include a paper mill in the area. They plan to spend an estimated 900 million dollars to construct a paper mill by the year 2001. Over the construction phase an estimated 2000 person-years of employment will be needed. Once in operation it is estimated that 300 direct jobs will be created.

During the construction of the DMI Paper Mill the Peace River Airport is likely to see a great increase in volumes of enplaned and deplaned passengers similar to its peak period in 1990. Another air carrier may be attracted to handle this increase in demand for passenger services. Demand for cargo services may also increase a significant amount with the construction of the paper mill.

CHAPTER II

A REVIEW OF THE PEACE RIVER AIRPORT

2.1 PHYSICAL FACILITIES

The Peace River Airport is a local airport that supports a variety of commercial and charter air services. The airport is operating on a 24 hour basis and provides the necessary range of instrument flight rule aids required to support virtually all forms of commercial, corporate and general aviation. The airport does not have a precision instrument landing system but does have other adequate instruments including a non-directional beam, distance measuring equipment and a high frequency omni-radio beacon. The airfield has runway and approach lighting for the main asphalt runway which measures at 1524 x 45.7 metres. In case of a power failure a stand-by power system is available to operate the essential electrical services. For light aircraft a cross-wind grass runway of 580 x 46 metres is maintained during summer months only.

Located within the terminal building is a NAV Canada Flight Services Station (FSS) which operates on a 24 hour basis. The FSS is operated by nine full time employees. Local air traffic control is the responsibility of the Edmonton International Airport. The FSS continuously monitors and provides local weather information.

The main runway is connected to the terminal building by two asphalt taxiways which lead to and from a 14,000 m² aircraft handling and parking apron adjacent to the terminal building. The parking apron is designed to handle aircraft with a maximum 75,000 pounds takeoff weight. The apron area is adequate to simultaneously handle three to four Dash-8 sized aircraft. A second taxiway of roughly 350 metres in length links the main terminal apron to the on-site commercial hanger facilities. This taxiway, is not designed to handle aircraft with a maximum takeoff weight in excess of 15,000 pounds.

Hydrant refuelling is unavailable, a fuel bowser from either of the fuel operators attends to airside requirements. The apron is of superior construction and is currently in good operational condition. Airport Administration is presently applying to the federal government for funding to overlay the taxiways and runway in the near future.

It is unlikely that the Peace River Airport will require a lengthening of the existing main runway over the next few years. For Canadian airports of less than 100,000 annual passengers, commercial service is almost entirely provided by commuter or Level III carriers which feature mainly 30 to 70 seat turbine powered aircraft. Canadian commuter carriers tend to increase frequency rather than capacity which is in line with passengers preference of additional non-stop flights. The rationalization of Canada's commuter carriers around Canadian Airlines and Air Canada has resulted in fairly uniform fleets. The fleets are mainly centred around the DHC-8 in its several models and the lesser numbers of BAe JetStream 31s, Swearingen Metroliners, Beach 99s, Embraer Brasilias and Bandeirantes ATR42/72s. All of these models can be handled at the Peace River Airport with no restrictions on payload. It is possible that the future acquisition plans for Canadian commuter carriers will include pure jet aircraft like:

- the BAe 146-1000 (80 passengers) and 200 (100 passengers) models;
- the F28/F100 (105 passengers) class;
- the Canadair RJ (70 passengers); and
- the Boeing B737-500 (100 passengers).

All of these aircraft can also be accommodated on the existing runway at or near full payload levels.

Peace River Airport's facilities are considered first rate. It is a modern, well designed terminal built to institutional standards with all public areas finished in durable, low maintenance surfaces. The airport facilities provide a full range of passenger and cargo amenities. The airport began operation in September 1984, with funding for the terminal building provided through the Alberta Heritage Fund. The bi-level terminal provides a total of 1720 m² excluding the basement. The first floor has large check-in, waiting and departure areas. The second floor contains a comfortable restaurant capable of seating

54 persons. The Flight Service Station occupies the third floor observation cupola. The basement area houses mechanical and storage areas, as well as a large conference room.

According to 1995 estimates, the number of enplaning and deplaning passengers during the peak hour was approximately 27. The terminal has a design threshold of 120 to 150 passengers per peak hour which is well above the current number of peak time passengers. The terminal could easily handle three to four times the number of passengers it is currently handling. As previously noted, the present apron facilities will handle simultaneous landings of between three to four commuter sized aircraft. Thus the Peace River Airport terminal and runway complex has the potential to handle traffic growth into the next century.

2.2 SCHEDULED COMMERCIAL SERVICES

Scheduled commercial services are provided by Canadian Regional Airlines linking Peace River with direct daily services to the Edmonton International Airport (3 times daily on weekdays and once daily each Saturday) and daily weekday service to High Level. Canadian Regional services are provided exclusively by DHC-8 aircraft of the 100 series (37 seats) and 300 series (54 seats).

After the downturn in demand with the completion of the DMI Pulp Mill in 1991, Air BC discontinued flights to Peace River Airport. Air BC commented that should the construction of a second phase by DMI or the proposed Shell in-situ expansion be undertaken, the carrier would review resuming service to the airport. It is likely that with the new 900 million dollar paper mill proposed by DMI, Air BC may return or a new air carrier may be attracted to serve the Peace River Airport.

2.3 STATISTICAL OVERVIEW

Figure #1 illustrates enplaned and deplaned passenger traffic at Peace River Airport for a five year period between 1991 and 1995. Passenger traffic declined steadily until 1994 when the trend reversed with a 12% increase. Figure #2 shows a steady increase in aircraft movements over the past five years at the Peace River Airport.

Figure #1

ENPLANED AND DEPLANED PASSENGERS 1991 - 1995

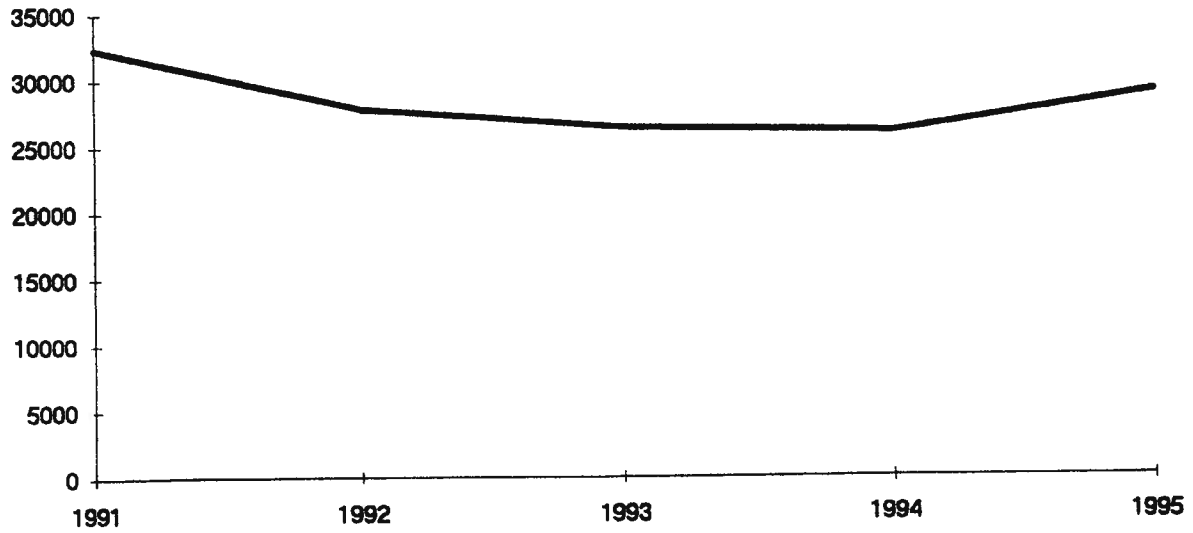
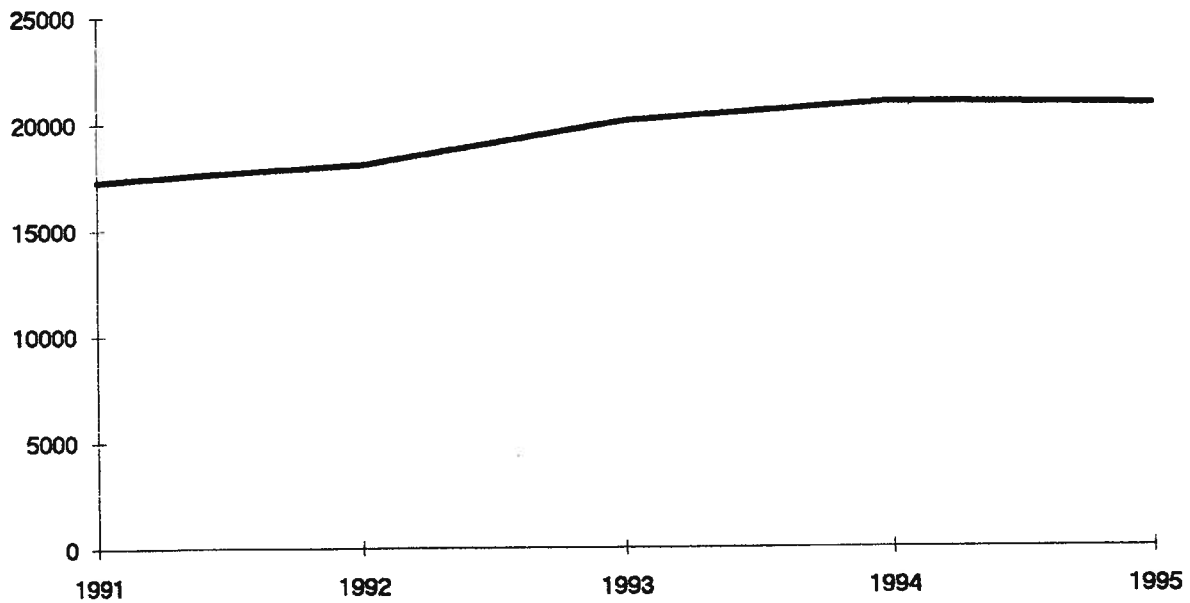


Figure #2

AIRCRAFT MOVEMENTS 1991 - 1995



2.4 COMMERCIAL AND GOVERNMENT OPERATIONS

On-site services provided by the Town of Peace River include:

- management of the terminal;
- crash, fire and rescue operations;
- the flight service station; and
- airfield maintenance

Commercial operations within the terminal include:

- air carrier and car rental outlets;
- restaurant; and
- concession services (ex. vending machines and taxi services).

Commercial operations at the airfield include:

- fuel sales;
- aircraft maintenance and sales;
- flight training;
- hangar and aircraft storage;
- airplane and helicopter charter operations; and
- the lease of 138 acres of farmland and a single on-site duplex.

The airfield houses 11 commercial firms involved in various aviation activities. In addition the RCMP operates an air detachment from the airport. All these operations have direct access to the airfield. In total these firms occupy approximately 1,950 m² of hangar and office space.

The airport currently contains 7 parcels of land suitable for development. Each parcel is approximately 5,600 m² in area. These parallel parcels extend to the south west from the existing firms. All of the lots feature airside access although the existing taxiway would have to be extended. The utility corridor and the service road would have to be extended to bring these lots up to standard. With an additional 25 to 30 lots available (each measuring approximately 5,600 m²), land for possible airside expansion should not be a problem in the near to medium future.

2.5 REVENUES AND EXPENDITURES

The airport is owned and operated by the Town of Peace River. The Town collects revenues from land and building rentals, aircraft landing fees, aircraft parking fees, fuel taxes, concessionaires and other miscellaneous sources. It incurs costs for providing management and administration services, for providing airport related crash, rescue and fire services, for operation and maintenance of airport property, and for payment of property taxes to the Municipal District of Peace No.135. In 1995, the property tax collected by the Municipal District from all assessments located at the airport totalled \$24,680. Table #1 is a statement of revenues and expenditures for the Peace River Airport during 1995.

Table #1.

STATEMENT OF REVENUES AND EXPENSES 1995

<u>Revenues (\$)</u>	
Service Fees	\$84,873
Rentals	87,220
Concessions	84,316
Miscellaneous Sales	<u>10,052</u>
Total Revenues	266,461
<u>Expenditures (\$)</u>	
Security Service	13,931
Crash, Fire and Rescue	9,261
Building Maintenance	162,515
Surface Structures	163,681
Administration	<u>207,924</u>
Total Expenditures	557,321
Operating Deficit	290,851
Cost Recovery (%)	47.8%

Source: Peace River Airport

Table #2

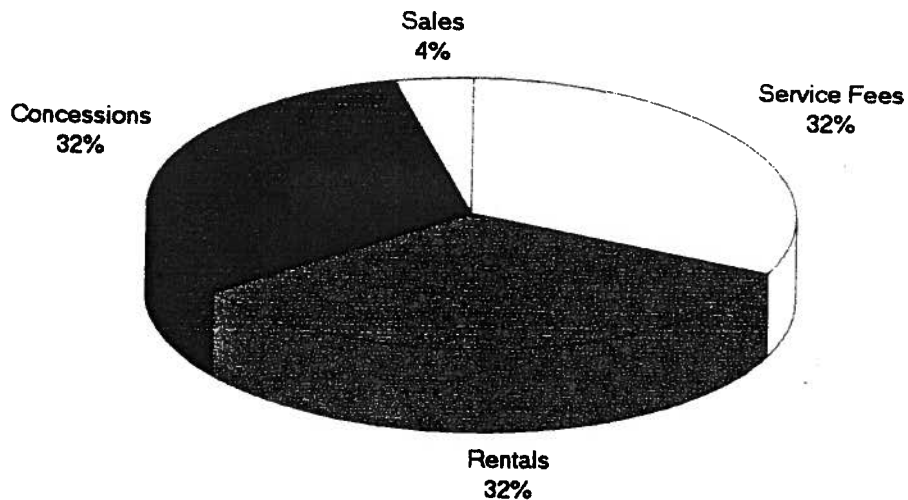
FINANCIAL HIGHLIGHTS OF THE PEACE RIVER AIRPORT 1991 - 1995

<u>Year</u>	<u>Revenue (\$)</u>	<u>Expenditures (\$)</u>	<u>Deficit (\$)</u>	<u>Cost Recovery</u>
1991	188,853	570,284	381,604	33.1%
1992	134,276	613,013	478,854	21.9%
1993	192,994	649,467	456,473	29.8%
1994	211,272	628,023	416,751	33.6%
1995	266,461	557,321	290,851	47.8%

Source: Peace River Airport

Figure #3

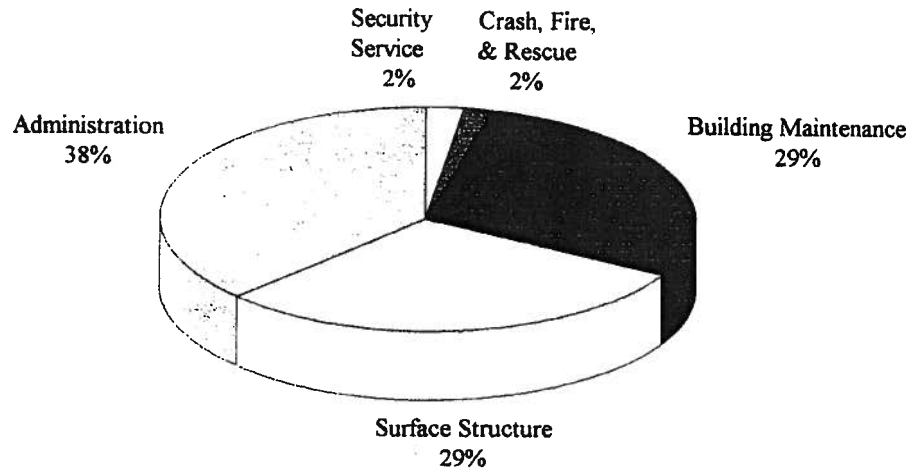
REVENUES - 1995



Source: Peace River Airport

Figure #4

EXPENDITURES - 1995



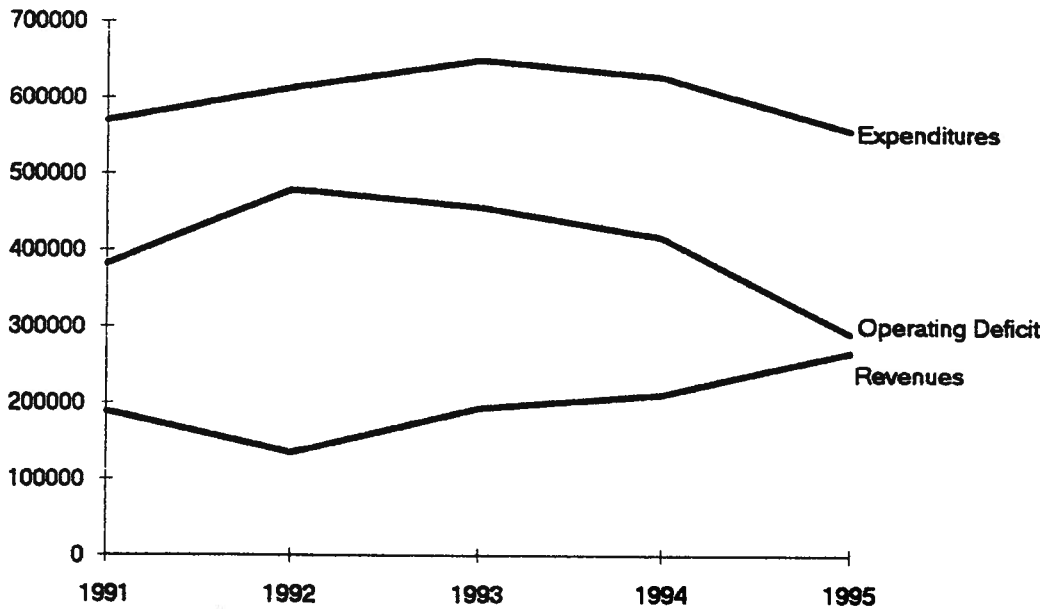
Source: Peace River Airport

From Table #2, it is evident that the percentage of cost recovery has increased over the past four years from 21.9% in 1992 to 47.8% in 1995. This trend towards an operating deficit of zero continues through to 1996 with a projected 80.1% cost recovery.

Figure #5 depicts the revenue, expenditure and operating deficit of the Peace River Airport from 1991 through 1995. This graphic shows how the operating deficit has been declining over the past four years due to rising revenues and declining expenditures.

Figure #5

REVENUE, EXPENDITURES AND OPERATING DEFICIT: 1991 - 1995

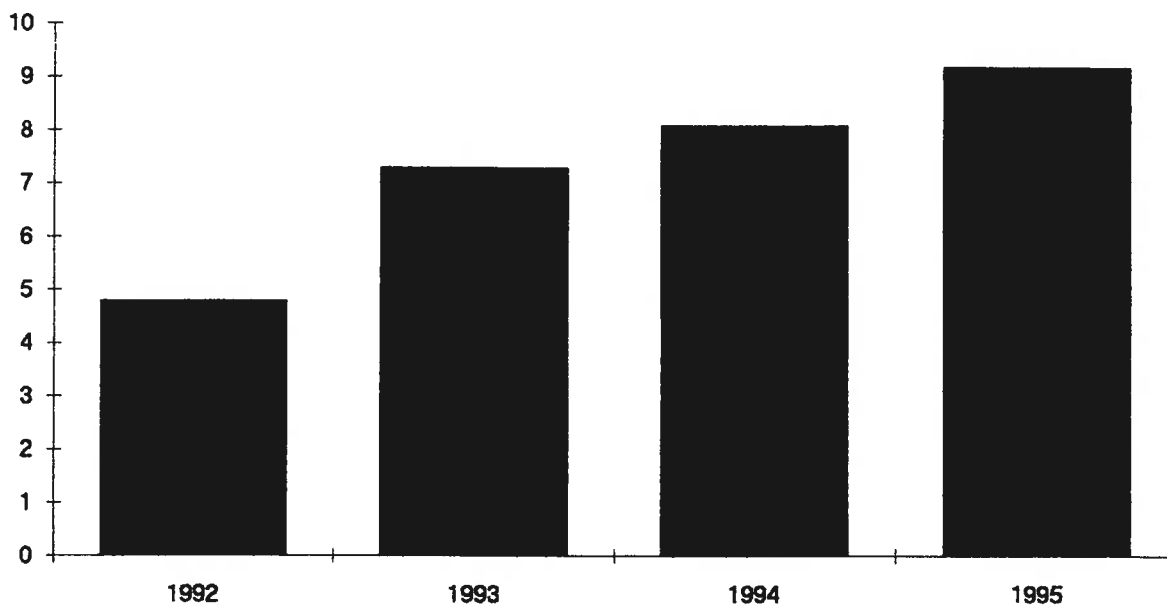


Source: Peace River Airport

The next figure depicts the revenue generated per enplaned and deplaned passenger for the period of 1992 through 1995. This figure shows that revenues increased over 98% and expenditures decreased by almost 19% over this period of time. The enplaned and deplaned traffic volumes increased by only 5% during this same period of time. Figure #6 shows this trend of increasing revenues and a relatively stagnate passenger traffic volumes in the form of increasing revenues per passenger. This statistic of increasing revenue per passenger is an important figure towards the elimination of an operating deficit. With the possible increase in passenger traffic during the construction phase of the DMI Paper Mill and with the increase in revenue per passenger, the Peace River Airport may be able to substantially reduce the operating deficit. Figure #2 shows a steady increase in aircraft movements over the past five years at the Peace River Airport.

Figure #6

REVENUE PER PASSENGER: 1992 - 1995



Source: Peace River Airport

2.6 FUTURE FINANCIAL IMPLICATIONS

Although Transport Canada owned the Peace River Airport, the Town of Peace River has operated the Airport for the past 35 years. Transport Canada made all the capital investment decisions and provided a large portion of the operating costs. This came in the form of a substantial annual subsidy to the airport of around 70% of the operating costs. On September 1, 1996 ownership of the Peace River Airport was transferred over to the Town of Peace River. With the airport running a large annual operating deficit (Table #2) and the federal government eliminating subsidies, some important financial decisions had to be made. A "not for profit" public enterprise which had to decrease expenditures and increase revenues to an annual operating deficit of zero had to be set up. The only way the airport can survive without a Federal subsidy is to operate with very little or no annual operating deficit. This type of transition takes time, especially

Table #3

**FEDERAL GOVERNMENT SUBSIDY:
APRIL 1996 - JANUARY 2000**

Quarter	Amount (\$)
April 1996	111,086.10
July 1996	105,611.10
October 1996	100,136.10
January 1997	94,661.10
April 1997	89,186.10
July 1997	83,711.10
October 1997	78,236.10
January 1998	72,761.10
April 1998	67,286.10
July 1998	61,811.10
October 1998	56,336.10
January 1999	50,861.10
April 1999	45,386.10
July 1999	39,911.10
October 1999	34,436.10
January 2000	28,961.10
Total	1,120,377.60

Source: Peace River Airport

when annual operating deficits are over 50%. Under the terms of the transfer agreement (Table #3) the federal government will make decreasing quarterly payments to the Town of Peace River until January 1, 2000. This money will be placed in a "Capital and Contingency" fund to cover costs of replacement and repairs of the airport and its facilities that used to be funded by the federal government. These reserves will keep the airport from becoming financially susceptible in the event of major replacement or reconstruction costs in the future. It is the contention of airport management to continue cost cutting measures in order to create surpluses which could be placed in the "Capital and Contingency" fund. This would ensure that funding is available to meet every possible problem that may be incurred over the future of the airport.

CHAPTER III

ECONOMIC IMPACT OF THE PEACE RIVER AIRPORT

3.1 BACKGROUND

The economic impact of the Peace River Airport has been measured in terms of gross economic output, employment and labour income for the 1995 calendar year. Quantitative measurements are expressed in monetary values and in terms of person-years of employment. Direct, indirect and induced forms of economic activity have been considered. Direct economic activity refers to commercial enterprises whose primary focus of operations are with the aviation industry. These firms consume various inputs in order to provide aviation related services. As a result, their consumption supports non-aviation or indirect economic activity. Employees of firms benefitting from direct and indirect endeavors spend a portion of their labour income on goods. The interactions between these sectors' employees and the consumer goods market creates induced economic activity. This rippling effect through the local economy is known as the multiplier effect.

Data for this section of the study was obtained by a means of a questionnaire that was delivered to any firms and organizations that were identified as having some involvement in the Town of Peace River's aviation industry. The names of these firms and organizations are listed in Appendix III. Twenty-nine questionnaires were distributed among industry participants. When complete responses were not provided survey data was augmented by estimates based on responses from similar organizations or information from secondary and alternate sources.

Primary Linkage organizations refer to the transactions of firms or organizations that derive all of their commercial activities from the airport. Organizations in this study include private and public sector users. Secondary linkage organizations are those

which produce or provide output that is consumed by the local aviation industry, although their output is not exclusively dependant on the aviation sector.

Primary linkage organizations are organizations that are aviation-oriented in nature, including:

- Air Carriers - Firms providing scheduled air services.
- General Aviation - Firms providing rotary or fixed wing air charter services, corporate air operations and aviation related activities such as refuelling, maintenance, training and sales.
- Airport Administration and Operations - Organizations involved in the management, operation and maintenance of the airport.
- Emergency Services - Organizations providing emergency services through the airport.

Secondary linkage organizations are those which are not exclusively dependant on airport oriented business for their revenues. These include:

- Commercial services - Firms providing wholesale or retail operations.
- Ground Transportation - Firms providing taxi, cart rental, courier and other transportation services between the airport and the local community.
- Tourism, Travel and Hotel Industries - Firms involved in tourism, travel accommodation and hospitality industries.

The economic multipliers used in this analysis were derived from the Alberta Bureau of Statistics' application of an appropriate statistical model to 1984 input-output data that traces inter-industry flows of goods and services. Authorities in input-output studies feel that these multipliers are the most representative for the Peace River Region at the present time. A matrix of the specific multipliers used is included in Appendix I. It should be noted that a considerable proportion of the aviation inter-industries' expenditures occur outside Alberta and possibly even Canada. Because of this, the

reader should be aware that the local multiplier effect can not be entirely verified. Therefor it is probable that considerable indirect and induced effects of the Peace River Airport are taking place beyond the Town and the local region. A significant amount may be retained in the province.

3.2 GROSS ECONOMIC OUTPUT

Gross economic output can be described as the total receipts for all goods and services consumed within a particular year (total gross revenues). The 1995 figures for gross economic output for the Peace River Airport is presented in Table #4. The largest contribution is represented by the air carriers and general aviation with a direct economic output of over 15.5 million dollars. Primary linkage organizations contributed over 16 million dollars in direct economic output. The largest contributor to direct economic output in the secondary linkage organizations was the travel, tourism and hotel industries with over 2.5 million dollars. The total in gross economic output that was linked to the existence of the Peace River Airport for all the primary and secondary linkage organizations was almost 19 million dollars. When combining the gross direct revenues for all the primary and secondary linkage organizations and their respective multipliers the revenue generated by the Peace River Airport is over 50 million dollars worth of economic activity.

3.3 LEAKAGE

The aviation industry requires significant capital intensive external outputs such as aircraft, parts, fuel and, for seasonal charter operations, out of town personnel may be required. By using the data obtained by the survey we can estimate that around 30% of the gross economic output is directed at the Town of Peace River and another 10% directed at the surrounding community. Around 60% of the economic output leaking out beyond a 40 kilometre radius of the region. According to these figures it can be estimated that the gross economic output of the Peace River Airport is probably no less than 20 million dollars, with 15 million directed at the Town of Peace River and 5 million directed at the surrounding region to a distance of 40 kilometres. Due to the relative remoteness of the area it is important to note that the leakage is not as large for the Peace River Region as it would be for a community near a major metropolitan area. Businesses are more likely to spend their money in the immediate area than pay for the extra cost incurred to ship goods from larger urban centres.

Table #4

**PEACE RIVER AIRPORT ECONOMIC ACTIVITY:
GROSS ECONOMIC OUTPUT - 1995**

Primary Linkage Organizations	Direct Economic Output (\$)	Multiplier	Total (\$)
Air Carriers and General Aviation	15,550,000	2.642	41,083,100
Airport Administration, Operations and Emergency Services	697,000	2.737	1,907,689
Subtotal	16,247,000		42,990,789
Secondary Linkage Organizations			
Commercial Services	280,000	2.948	825,440
Ground Transportation	640,000	2.642	1,690,880
Tourism, Hotel and Travel Industries	1,697,000	2.813	4,773,661
Subtotal	2,617,000		7,289,105
Total	18,864,000		50,279,894

Source: Economic Impact Survey

3.4 EMPLOYMENT

Figures for employment are listed in terms of person-years of employment. One person-year is the equivalent of one person employed on a full time basis over one year. Employment figures for the Peace River Airport are listed in Table #5. It should be noted that only permanent employees operating at the Peace River Airport were included. The number of actual workers employed at the Peace River Airport may actually be higher than the person-years of employment indicates.

In 1995 the Peace River Airport was directly responsible for 78 person-years of employment. From this total the aviation sector supplied 42 person-years of employment, approximately 54% of the total direct jobs created by the airport. Airport administration, operations and emergency operations accounted for the remaining 46% of the direct jobs provided by the primary linkage organizations. The airport created 24.5 person-years of employment in the secondary industries. The hotel, tourism and travel industries accounted for 12 person-years of employment and ground transportation accounted for 4.5 person-years of employment.

In terms of indirect and induced employment it is likely that of the 49.7 positions jobs creditable to the employment activities of the primary linkage organizations only a small amount (approximately 20%) would be created in the surrounding area, for a total of possibly 10 full time positions. It is also likely that the indirect and induced positions attributable to the secondary linkage organizations (subtotal 12.2) would be significantly higher (approximately 60%).

Table #5

**PEACE RIVER AIRPORT ECONOMIC ACTIVITY:
EMPLOYMENT IN PERSON-YEARS - 1995**

Primary Linkage Organizations	Direct	Multiplier	Induced and Indirect	Total
Air Carriers and General Aviation	42	1.901	37.8	79.8
Airport Administration, Operations and Emergency Services	33.2	1.359	11.9	45.1
Subtotal	75.2		49.7	124.9
Secondary Linkage Organizations				
Commercial Services	8	1.413	3.3	11.3
Ground Transportation	4.5	1.901	4.1	8.6
Tourism, Hotel and Travel Industries	12	1.402	4.8	16.8
Subtotal	24.5		12.2	36.7
Total	99.7		61.9	161.6

Source: Economic Impact Survey

Therefore another 7.3 positions from the secondary linkage organizations could be added to the 12.2 from the primary linkage organizations for an approximate total of 19.5 induced and indirect local positions. Thus the total employment which could be credited to the airport would approximately be the equivalent of 119.2 full time positions. By looking at the responses from the questionnaire we can determine that approximately 60% of the total employment created by the airport are people residing in the Town of Peace River.

According to 1991 census figures, the labour force in Peace River is 3,760 persons. The direct employment effect of the airport is equal to the provision of 2.7% of the full time positions for the local labour force. If induced and indirect employment is also taken into account then this figure rises to 3.2%.

The following table has been constructed to compare the employment levels of the major employers in the Town of Peace River and surrounding area. The table indicates that the Peace River Airport is one of the major employers of the region ranking 9th when using just on-site direct employment figures. If the figures for direct, induced and indirect employment are taken into account the airport would rank as high as the 6th largest employer in the region.

Table #6

EMPLOYMENT LEVELS OF THE MAJOR EMPLOYERS IN THE PEACE RIVER REGION

<u>Employer</u>	<u>Number Employed</u>
Daishowa-Marubeni Pulp Mill	385
Peace Health Region	380
Government of Alberta	291
Freson IGA	150
Peace River School Division #10	145
Travellers	115
North Peace Separate School Division #43	87
Shell Canada	80
Peace River Airport	78
Town of Peace River	77

Table #7

**PEACE RIVER AIRPORT ECONOMIC ACTIVITY:
LABOUR INCOME - 1995**

Primary Linkage Organizations	Direct	Multiplier	Induced and Indirect	Total
Air Carriers and General Aviation	1,311,000	1.945	1,238,895	2,549,895
Airport Administration, operations and Emergency Services	1,330,000	1.632	840,586	2,170,560
Subtotal	2,641,000		2,079,481	4,720,481
Secondary Linkage Organizations				
Commercial Services	195,000	1.551	107,445	302,445
Ground Transportation	150,000	1.945	141,750	291,750
Tourism, Hotel and Travel Industries	403,500	1.694	280,029	683,529
Subtotal	748,500		529,224	1,277,724
Total	3,389,500		2,608,705	5,998,205

Source: Economic Impact Survey

3.5 LABOUR INCOME

In 1995, a labour income of approximately 3.4 million dollars can be traced to the existence of the Peace River Airport. Table #7 shows that the air carrier and general aviation sector generated a labour income of 1.3 million dollars in 1995. The primary linkage organizations accounted for 78% of the total direct annual wages and salaries. With the inclusion of approximately 2.6 million dollars of indirect and induced labour income, the Peace River Airport generated a gross labour income of almost 6 million in 1995.

Considerable leakages to external economies are an inherent feature of the aviation industry, particularly in a relatively remote community like Peace River. Thus it is likely that only 20% of the indirect and induced labour income from primary linkage organizations and only 60% from secondary linkage organizations are spent in the Peace River Region for a total of 733,400 dollars. This combined with the direct income suggests a total local labour activity valued at over 4 million dollars for 1995.

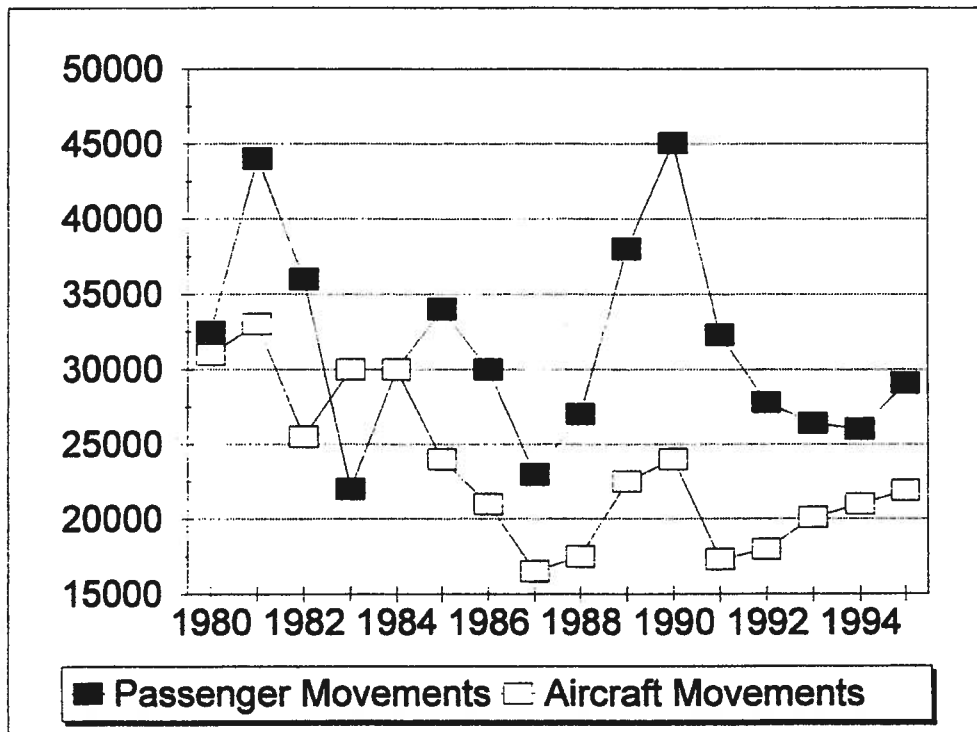
3.6 FORECAST OF ECONOMIC IMPACT

With a market the size of Peace River's, a minor economic shift can have a substantial impact on throughput statistics. This makes it challenging to forecast the future patterns of passenger and aircraft movements at the Peace River Airport. Figure #7 shows exactly how volatile the pattern for aircraft and passenger movement has been at the airport over the past 15 years.

Figure #7 illustrates the passenger and aircraft trends at the Peace River Airport over the past 15 years. Enplaned and deplaned passenger movements have fluctuated greatly. In the early 1980's oil and gas exploration activity in and around the Peace River Region caused passenger traffic movements to soar to a high of 44,100 in 1981. The recession in the middle part of the decade slowed passenger demand. The upward shift during the end of the 1980's and the beginning of the 1990's is a result of the impact of the DMI Pulp Mill's construction. With the completion of the construction phase of the mill there was a downward trend in passenger movements. With the announcement of the construction of the DMI Paper Mill, passenger activity is likely to be affected similar to that in the late 1980's and rise in volume until the proposed completion of the mill in 2001.

Figure #7

TRAFFIC STATISTICS: 1980 - 1995



Source: Peace River Airport

Aircraft movement statistics have levelled off over the past three years at around 20,000+ movements a year. Even though aircraft movements have levelled off, they are still 17% higher than they were in 1991. With the construction of Daishowa-Marubeni International's paper mill, a demand for flights in and out of the Peace River Airport will likely rise substantially. This increased flow of passengers will increase demand on the businesses offering charter services as well as Canadian Regional Airlines, and might even attract another airline or charter service. This demand will increase aircraft movement probably to the levels experienced in the late 1980's. The Peace River Airport is well equipped to handle this increased demand.

With the relatively small market population of 33,000 for the Peace River Airport catchment area, the airport is susceptible to most economic factors that affect the region. A downturn in the economy, the downsizing or shut down of a large company or government agency, could have detrimental effects on the airport. This is an important factor in the present operation of the Peace River Airport. The Town of Peace River does not have the financial capability that the federal government has to absorb the operating deficit of the airport. The airport must be able to be self sustaining monetarily in order to remain in existence. Thus, with the considerable gains airport management has made towards reducing the operating deficit (toward an eventual goal of zero), the future of the Peace River Airport looks bright.

The construction phase of the DMI paper mill will be an important factor in the future of the airport. With the construction of the mill, it is likely that passenger movements will rise to levels seen during the late 1980's. With revenues at the present rate of 9.2 dollars per passenger the airport could see a significant reduction in the operating deficit with the predicted rise in passenger traffic. For example, if passenger movement rates rose to the peak number experienced in 1990 of 45,000 revenues for the year would be 414,000 dollars (at the present rate of 9.2 dollars revenue per passenger). This would cover almost 75% of the 1995 operating expenditures, a positive step towards a zero operating deficit. However these figures may be overly optimistic since they are still dependant on whether passenger traffic rises with construction of the mill.

The direct economic impact of the airport is likely to remain stable over the next few years. Even without the construction of the paper mill, scheduled services by Canadian Regional and other chartered services would likely continue unless passenger rates fall dramatically. Because of this relative stability, the only result that can be predicted for the future of the Peace River Airport is at the very least a positive one. If passenger levels increase substantially an extra air carrier may be added to the airport and this could only help to increase the direct economic impact of the airport. The expectations for the effect of secondary linkages in the future is likely to remain stable, at the very least. With a decrease in direct employment of 50% in the secondary linkage organizations since 1991, it is unlikely that there is much more room to cut airport related jobs as long as the primary linkage organizations remain stable. Thus, along with the primary linkage organizations, the secondary linkage organizations can only benefit from the possible increase in passenger traffic predicted.

An important factor contributing to the airport's success is that its general aviation activities combined with administration, operations and emergency services, contribute the largest portion of the direct and indirect benefits associated with the airport. This is important because as long as there are enough passengers to keep the air carriers and general aviation organizations afloat, then the airport will make significant contributions to the economy. Any construction projects or new businesses can only help improve the airport's impact on the Peace River Region's economy.

3.7 SOCIOLOGICAL IMPACT

Apart from the economic impact, another important aspect of the Peace River Airport is the impact it has on the Region's society. Because of its distance from any community (over 10 km), the airport is fairly isolated with regards to noise pollution, air pollution and ground traffic congestion. This is probably why no comments on these issues were mentioned in the surveys. In the final tabulation of the comments provided in the surveys, the only re-occurring negative comment was that prices to fly out of the Peace River Airport are relatively high. A positive comment that re-occurred in the surveys was the importance of having the airport nearby to reduce the isolation of the region and make travel more accessible, whether it is to an urban center or to an isolated community. Another important note that many of the respondents to the survey mentioned was the significant impact the airport has on the region both economically and sociologically.

3.8 CONCLUSION

This study has attempted to put the economic impact of the Peace River Airport into quantitative figures. It is important to note that many of the figures associated to employment, economic output and labour income might actually be underestimations due to the incorporation of relatively high leakage factors. With the relative isolation of the Peace Region it is probable that the leakage factor is smaller than 50%. Thus the figures given probably representative the low end of the range of economic output created by the Peace River Airport.

The study has also attempted to forecast the future of the Peace River Airport. With the announcement of the DMI paper mill it is unlikely that anything but increased output will be created by the airport. The study attempted to show that the airport is fairly stable as long as a minimum passenger traffic level is surpassed. With increasing revenues and decreasing expenditures, the airport is on-line to reach an operating deficit of zero, which will also increase the stability of the airport.

With tight fiscal controls, an increasing revenue per passenger and the construction phase of the DMI paper mill, the Peace River Airport seems to be heading towards financial independence and stability.

APPENDIX I

ECONOMIC MULTIPLIERS

<u>Sector</u>	<u>Gross Revenue</u>	<u>Employment</u>	<u>Labour Income</u>
Air Carriers	2.642	1.901	1.945
General Aviation	2.642	1.901	1.945
Airport Administration, Operations and Emergency Services	2.737	1.359	1.632
Commercial Services	2.948	1.413	1.551

Because specific multipliers related to the aviation industry are not available, the following sectors were used as best approximations.

Air Carriers	Transportation and Storage
General Aviation	Transportation and Storage
Airport Administration, Operations and Emergency Services	Other Personnel and Administrative Services Industry
Commercial Services	Wholesale and Retail Trade Industry

APPENDIX II

SURVEY OF THE ECONOMIC SIGNIFICANCE OF THE PEACE RIVER AIRPORT

Please complete this survey using data for 1995 or for your most recent fiscal year. All data will be treated in strict confidence and will not be released to any individual or agency. Only aggregate industry data will be published.

Please answer the question as best you can. If you are not entirely certain of an answer, please give your best estimate, as a local professional your estimate will easily surpass our best guess in accuracy.

If any section is not appropriate to your operations, please indicate with an N/A in the provided space. If necessary please feel free to direct any questions pertaining to this questionnaire or the study to:

Dale Freitag
Mackenzie Municipal Services Agency
Box 450
Berwyn, Alberta
T0H 0E0
Telephone: (403) 338-3862
Fax: (403) 338 3811
Email: mmsa @ ccinet.ab.ca

Section A: General Information

- 1) Name of firm, contact person and telephone number.

- 2) Type of business or organization (please check one).

Air carrier —
General Aviation —
Air cargo/courier —
Accommodation —
Retail —
Service —
Other —

Section B: Employment, Expenditure and Tax Data

Employment - 1995

- 1) Average number of full time employees working for your firm and residing within the Town of Peace River.

Average number of full time employees working for you firm and residing within a 40 km radius of the Town of Peace River.

- 2) Average number of part time employees working for your firm and residing in the Town of Peace River (Please estimate in full time equivalents, ie. 1 part time worker at 20 hrs/week = .5 of a full time employee).

Average number of part time employees working for your firm and residing within a 40 km radius of The Town of Peace River (Please estimate in full time equivalents).

- 3) Percentage total of workforce that is employed on site at the Peace River Airport.
 _____ %
- 4) Total payroll expenses for employees residing within the Town of Peace River in terms of wages, salaries, employee benefits and any dividends paid to owners.
 \$ _____
- Total payroll expenses for employees residing within a 40 km radius of the Town of Peace River.
 \$ _____

Expenditures for Goods and Services (1995)

- 1) Total operating expenditures for goods and services, excluding wages, salaries, dividends and employee benefits.
 \$ _____
- 2) Total capital expenditures for land, buildings, equipment, etc.
 \$ _____
- 3) Total capital expenditure for aircraft only.
 \$ _____

4) In geographical terms, please estimate the percentage of your firm's operating and capital expenditures (excluding wages, salaries, dividends and employee benefits) that were directed to businesses and organizations:

Operating at the Peace River Airport	_____ %
Operating within the Town of Peace River	_____ %
Within a 40 km radius of the Town of Peace River	_____ %
Beyond a 40 km radius, but within Alberta	_____ %
Outside Alberta but within Canada	_____ %
Outside Canada	_____ %

Taxes and/or Levies (1995)

- 1) Total municipal, provincial, and federal taxes including payroll, fuel, sales, GST and any other applicable taxes.
\$ _____

- 2) Municipal taxes/levies.
\$ _____

Section C: Revenues (1995)

- 1) Gross annual revenues for 1995 or the last complete fiscal year from all sources.
\$ _____

- 2) Percentage of gross revenues directly attributable to the existence of the Peace River Airport.
\$ _____

- 3) In geographical terms, please estimate the percentages of total revenues which originated from the following areas:
 - Peace River Airport activities _____%

 - Within a 40 km radius of the Town of Peace River _____%

 - Beyond a 40 km radius but within Alberta _____%

 - Outside Alberta but within Canada _____%

 - Outside Canada _____%

- 4) Estimated percentage of revenues as a result of:
 - Passenger related activities _____%

 - Air freight related activities _____%

 - General aviation related activities _____%

 - Aviation charter related activities _____%

Section D: Capital Investment

- 1) Estimated replacement cost of current capital facilities.
\$ _____

- 2) Planned capital expenditures over the next five years (please indicate description, estimated cost and year):
 - i) _____

 - ii) _____

 - iii) _____

Section E: General Comments

- 1) In your opinion, what are the principal benefits to your firm of being able to access the Peace River Airport.

- 2) What are the major advantages to the community that result from the Airport.

- 3) What economic impact does the Peace River Airport have on the surrounding area.

- 4) Additional comments

APPENDIX III

FIRMS AND ORGANIZATIONS CONTACTED

- AVIS RENT-A-CAR
- BUDGET RENT-A-CAR
- CANADIAN HELICOPTERS
- CANADIAN REGIONAL AIRLINES
- CRESENT MOTEL
- DAISHOWA-MARUBENI INTERNATIONAL LIMITED
- HIGHLAND HELICOPTERS
- ITP CAREFREE TRAVEL
- LOOMIS COURIER LIMITED
- MILE ZERO INN
- MILLER TRAVEL
- NORTHERN AIR CHARTER INCORPORATED
- NORTH PEACE LIVING SOCIETY
- PEACE AIR LIMITED
- PEACE HELICOPTERS
- PEACE REGIONAL EMERGENCY SERVICES
- PEACE RIVER TAXI
- PEACE VALLEY INNS
- PRAIRIE CABS
- PUROLATOR CANADA
- RCMP - AIR DETACHMENT
- SHELL CANADA
- TILDEN RENT-A-CAR
- TRANSPORT CANADA - FLIGHT SERVICES STATION
- TRAVELLERS MOTOR HOTEL
- ULTRA HELICOPTERS