The 2011 Economic Impact of the Thunder Bay International Airport

THUNDER BAY
International Airports Authority Inc.

THE ECONOMIC IMPACT OF THE THUNDER BAY INTERNATIONAL AIRPORT : 2011

prepared for

THE THUNDER BAY INTERNATIONAL AIRPORTS AUTHORITY

RP ERICKSON & ASSOCIATES
AVIATION CONSULTANTS

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EXECUTIVE SUMMARY

The Thunder Bay International Airport is an economic engine for the community, generating hundreds of millions of dollars in local economic activity while providing one of the largest employment generators in the region. The Airport has evolved into an indispensible, if not critical, piece of transportation infrastructure for Thunder Bay – a lifeline linking the City and its northwest Ontario catchment area to centres of national and international commerce.

This report documents the 2011 economic impact activity generated by some 59 on-airport firms. Significant additional benefits are generated by the spending of non-resident visitors arriving by air and from the construction activity associated with airport capital projects during the year.

The economic impact is reported in terms of jobs – both part and full-time are expressed in full-time equivalents (FTEs), labour income and value-added gross domestic product (GDP). Direct, indirect and induced forms of activity have been considered. The response rate to the interview process and survey questionnaire was exceptional : a 98 percent completion rate for the data sought.

In 2011, the Thunder Bay International Airport supported a significant level of economic activity :

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
2,086 †	$95.551	$122.198	$217.749

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
4,986	$243.324	$325.673	$568.977

(in millions, except FTEs)

† 1631 jobs are located on the airport

In 2011, the Thunder Bay International Airport generated $569 million of GDP activity - 15 percent of Thunder Bay's total GDP.

The Airport is one of the Largest Centres of Employment in the Thunder Bay area.

The economic benefits of the on-airport firms are distributed :

	FTEs	Labour Income	Other Expenditures	Total Value added GDP
Air Carriers	37%	41%	36%	38%
Airport Support and Concessionaires	15%	20%	25%	23%
General & Corporate Av	20%	21%	29%	25%
Air Cargo	4%	3%	2%	2%
Government Services	11%	8%	1%	4%
On-Airport, Non-Aviation	14%	7%	7%	7%

Each 1000 E&D passengers supports 6.9 full time jobs.
Each 1000 E&D passengers supports $309,000 of annual labour income.
Each 1000 E&D passengers supports $770,000 of total GDP activity.

Each time a B737 lands and takes off, it supports 1.79 FTEs;
$80,000 of annual labour income; and $200,000 of GDP activity.

Each time a Bombardier CRA lands and takes off, it supports 1.04 FTEs;
$46,000 of annual labour income; and $116,000 of GDP activity.

A new daily 19-seat regional service linking Thunder Bay to a northwest Ontario community would support annual benefits of :
33 FTEs; $1.50 million of labour income; and, $3.73 million of total GDP activity

In 2011, the Thunder Bay International Airport generated $356 million in taxes.

This total is divided :

Federal Government	**$194 million**
Province of Ontario	**$125 million**
Municipal Governments	**$37 million**

THE ECONOMIC IMPACT OF THE THUNDER BAY INTERNATIONAL AIRPORT : 2011

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Definition of Terms

ATB – airport terminal building.

FTEs – Part and full time equivalent workers, based upon a 40 hr work week.

E&D passengers – enplaned and deplaned passengers.

GDP – Gross domestic product; the value of all goods and services required to produce a given service or product.

Jobs – the number of workers gainfully employed, either full-time (FTE) or part-time.

Labour Income – the annual salaries plus benefits of a given workforce, which generally circulate within the community where that workforce resides.

On-Airport, Non-Aviation – refers to those businesses physically located on airport property but do not have or produce an aviation-related product or service.

One-Time, New Construction – consists of on-airport, new capital construction (ie. new bricks and mortar facilities and/or the refurbishment of existing infrastructure).

Other Expenditures – other annual, non-labour expenditures, by firms for goods and services, excluding labour costs. These monies generally circulate within the community where those purchases are made.

Non-Resident Visitors – passengers arriving at the airport from jurisdictions outside the greater Thunder Bay area (ie. other parts of Ontario, other provinces, transborder or international passengers).

Total Value-added GDP – an aggregate of the labour income plus other expenditures totals which denotes the value-added activity created, in this case, by the airport.

Trans-Border – US originating or departing passengers.

Chapter I

Introduction

1.1 About this report

This report was undertaken by RP Erickson & Associates of Calgary for the Thunder Bay International Airports Authority. The purpose of the study is to document the economic impact of the Thunder Bay International Airport during the 2011 calendar year. The report utilizes a similar methodology as employed in the previous economic evaluation of the airport undertaken in 2008. Econometric Research Ltd of Hamilton was contracted to assess the tax impact of the Airport. These findings are included in the Executive Summary, with the complete report contained in Appendix IV.

Impact assessments are valuable in that they serve to heighten business, community and political awareness as to the economic importance of an airport within a local economy. This study can also be viewed as a base-line against which future developments may be measured.

Any questions related to this study should be directed to Mr. Ed Schmidtke, Manager Business Development, Thunder Bay International Airports Authority (807) 473-2602.

1.2 Background

The Thunder Bay International Airport (YQT) is operated and managed by the Thunder Bay International Airports Authority (TBIAA) under a long-term lease agreement with the federal government. The TBIAA is a non-share, private Corporation - no public funding is received. The Airport is located on the south western reaches of the City of Thunder Bay. The Airport is one of 26 National Airport System (NAS) airports in Canada. YQT is the only NAS airport with no airport improvement/passenger fee.

The Thunder Bay International Airport was constructed with federal Department of Transport (DoT) assistance in 1937, replacing an earlier local flying club facility dating from 1927. The Ft. William Municipal Airport opened in 1939 on 240 acres (97 hectares) of land purchased from the City of Ft. William and was initially operated and managed by the City. With the advent of War II the DoT operated and managed the Airport through a lease and established the No. 2 Elementary Flying Training School under the British Commonwealth Air Training Plan. After the War, the federal government purchased the Airport and bought an adjacent parcel of land to extend the runways bringing up the land base to its present 790 acres (320 hectares).

Regularly scheduled flights were initiated by Trans Canada Airlines in 1947, and since that date YQT has featured a variety of regional, transborder and transcontinental air services by a varying array of local, provincial and national operators. The Airport was transferred to local management by the TBIAA on September 01, 1997.

The airfield features a significant general aviation component, with a number of on-site corporate, charter, maintenance, training and speciality aviation services companies. Some 110 fixed and rotary-wing aircraft are presently based at the Airport, although this number rises considerably during the busy summer season, especially in support of those forestry, mining and tourism interests who are based throughout north-western Ontario.

In 2011, scheduled air passenger activity at YQT totalled 719,490 passengers and there were 96,100 aircraft movements. Flight training accounts for roughly 50 percent of aircraft movements in any given year.

The Airport property generally exhibits a flat topography. The reference elevation is 653' above mean sea level. The Airport operates on a 24-hour, 7-day per week basis. The main asphalt runway (07-25) is 7320 x 200'; the crosswind runway (12-30) is 5300 x 200'. The airfield has runway and approach lighting; navigation and landing aids include a precision approach ILS runway 07 and RNav/GNSS (GPS) approaches to Runways 25, 12 and 07. The Nav Canada Tower provides local air traffic control and is operated on a 16 hr per day basis; a facility which remains a significant airport asset.

In 2009 the TBIAA lengthened the main runway by some 1100 feet. This investment has increased the capabilities of the Airport considerably which advantages both the payload and range parameters for air carriers using YQT – an early result has been the introduction of several new 'sun spot' charter destinations in the Caribbean to the Airport's evolving network of direct air service destinations. A further benefit of the additional runway length has been a reduction in the number of weather-related delays to air carrier as well as general and corporate aviation operations.

The Thunder Bay International Airport is an economic engine for its community pumping hundreds of millions of dollars of economic activity into the local economy, as well as providing significant fiscal benefits to the provincial and national economies. The Thunder Bay region exhibits a range of air traffic 'attractors' such as : an entrepreneurial-minded business community which has fostered a diversified local economy; a well-educated workforce with comparatively high disposable incomes; in addition to Thunder Bay's attractive location as a convention and tourism destination. These attractors have created a stable and growing base of demand for air travel.

1.3 Methodology

The economic impact of the Thunder Bay International Airport has been measured in terms of employment – both part-time and full-time jobs [FTEs], labour income, other expenditures and total value-added GDP. These leading indicators are expressed in dollar values and person-years of employment. Direct, indirect and induced forms of activity have been considered for employment and GDP. Data was obtained for the 2011 calendar year.

The data compiled in the 2011 study was obtained via a questionnaire circulated amongst the 59 firms that operate from the Thunder Bay International Airport. It is noted that a number of companies, particularly the terminal building concessionaires, often include subsidiary businesses operating separate venues. In all cases, data was sought for an entire operation even though a commercial entity may have several on-airport outlets. Therefore, the number of individual companies operating on the airport does not correspond to the above number of firms canvassed.

The survey population was separated into 8 sub-categories; those impacts associated with :

- the air carriers & their support services;
- airport support and concessionaires;
- the general and corporate aviation communities;
- the air cargo sector;
- the government agencies;
- on-airport, non-aviation firms;
- the impact associated with the spending activities of non-resident air passengers visiting the Thunder Bay area via the airport; and,
- the 'one-time' economic impacts of new construction projects on the Thunder Bay International Airport.

Each of the above categories is described in more detail in Chapter II (Sections 2.1 through 2.8). Section 2.9 displays the aggregate economic impact of the Thunder Bay International Airport for 2011.

In conducting the interview/questionnaire process, key principals at each targeted firm were visited by the consultants, where : the underlying rationale for undertaking the study was explained; the objectives of the study could be examined; the value of their participation could be fully explored; and, the confidentiality of their data assured. This approach resulted in an exceptional 98 percent response rate from the 59 firms canvassed. In those cases where respondents chose not to provide employment, labour income or cost figures, data was estimated comparing completed results of similar-sized firms involved in like commercial pursuits.

The impact of off-airport passenger spending was undertaken by utilizing the Conference Board of Canada's TEAM econometric model, as explained in Section 2.7.

One last important consideration is worth imparting : this report represents a 'snap-shot' of economic activity in time. The data herein represents the economic activity for the Thunder Bay International Airport for calendar year 2011.

1.4 The economic impact modelling process

Economic impact analysis is based on the premise that operations within various industries in an economy are closely related or linked to each other; that is, an increase in the activity levels in one industry will produce a positive 'domino' or rippling effect on other industries. Economists discuss the impact that one sector has on another in terms of indirect and induced effects. The total economic impact is the sum of the direct, indirect and induced effects.

In this report :

> *Direct economic effects* are the economic activities related to employment, labour income, and expenditures emanating from on-airport firms or from passenger spending or new construction linked to the presence of the Thunder Bay International Airport.
>
> *Indirect economic effects* are those related to the economic impact associated with parallel co-activities which support activities at the Thunder Bay International Airport. Broad examples would include : the inputs required to find, process and ship refined oil products used aboard aircraft or the office supply industry which supports aviation administration functions, etc. This economic activity is accounted for by multipliers which attempt to quantify the interactive linkages within the local economy impacted by direct economic activity at the Thunder Bay International Airport.
>
> *Induced economic effects* are those due to the overall increase in the goods and services produced within an economy, arising from the spending power of direct and indirect employees. For example, the auto mechanic whose services are in demand by an employee of an airport firm who requires the use of his/her car to get to/from the airport, or the movie theatre operation which benefits from the disposable income of airport workers, etc. As in the case in calculating the indirect benefits, multipliers are used to identify induced activity.

The aviation industry is a good example of a highly integrated sectoral activity which has significant linkages throughout a domestic economy. The multipliers associated with aviation are higher than most primary sectors and, as such, the potential impact to an economy linked to an increase or expansion in aviation activity is significant.

The most common economic measures used in economic impact surveys are : employment and value-added gross domestic product [GDP]. For this study, the consultants have chosen to display labour income as a separate category of value-added GDP in addition to total value-added GDP.

In this report :

Employment is measured by FTEs and by annual income plus benefits of the employees required to mount an airport presence. FTEs are expressed in person-years and labour income by dollar value. Employment multipliers are used to generate the associated indirect and induced impacts. We also report employment in terms of jobs – both full and part-time as collected in our survey and reported in Section 2.10 (no multiplier effort has been extended to this total).

Labour income is the total payroll expense of the canvassed firms, including wages, salaries and all employee benefits. Labour income multipliers are used to generate the associated indirect and induced impacts.

Other Expenditures is defined as the annual operating expenditures for goods and services of the canvassed firms, excluding labour income.

Total Value-added GDP is an aggregate of labour income and other expenditure totals. No multiplier has been applied to this category.

1.5 A word about the multipliers used in this report

Multipliers are used to *infer* indirect and induced economic activity from a measure of direct economic activity. Multipliers cannot be directly observed; they are inferred from an economic model. By far the direct measure is the most accurate. Readers are advised that multiplier analysis remains an imprecise econometric technique and that caution be used in interpreting the indirect and induced impacts contained in this report. However, multipliers are virtually the only cost-effective tool available to identify the overall impact of a sectoral activity within an economy.

The consultants note that the Ontario Department of Finance does not create Ontario-specific economic multipliers, unlike their counterpart agencies in most other provinces. The consultants contracted Statistics Canada to produce the Ontario-specific set of indirect and induced multipliers used in this study.

Chapter II

The 2011 Economic Impact of the Thunder Bay International Airport

2.1 Economic Impact of the Air Carrier & Support Services Sector at the Thunder Bay International Airport : 2011

As could be expected, the air carrier sector is a dominant contributor to the economic activity generated by the Thunder Bay International Airport. The major firms operating within this category include scheduled and charter airlines, ground and passenger handling firms, security screening, food catering, aircraft grooming, line maintenance firms and re-fuelling companies.

Table 1 depicts the economic impact activity undertaken by the Air Carrier & Support Services sector in 2011.

Table 1.

Air Carrier & Support Services Sector : 2011 Economic Impact

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
462	$27.091	$29.303	$56.394

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
1222	$72.306	$79.880	$152.186

For calendar year 2011, a total of 462 annual full-time equivalent employees can be attributed to the Air Carrier & Support sector operating at the Thunder Bay International Airport – within this category a total of 516 jobs are situated on the airport. Their aggregate labour income was identified at $27.091 million. Other Expenditures for this sector were $29.303 million. Total direct value-added GDP was $56.394 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the considerable impact of Thunder Bay's air carrier sector can be realized. This category creates 1222 full-time jobs, generating an annual labour income of $72.306 million. Other Expenditures in this sector were $79.880 million. In 2011, the total value-added GDP benefit created by air carriers and their support activities at the Thunder Bay International Airport was $152.186 million.

2.2 Economic Impact of the Airport Support and Concessionaire Sectors at the Thunder Bay International Airport : 2011

This sector includes the Airport Authority, Airport Support firms such as Nav Canada, Airport security, etc. alongside the Airport Concessionaires who provide a range of services to passengers, visitors, meeters & greeters and employees of the Airport. The Concessionaire companies offer a number of on-site services through a variety of subsidiary or satellite venues. These outlets are open over the operating hours of the terminal building – as a result, this sector has the largest number of part-time workers found on the Airport.

Table 2 depicts the economic impact activity undertaken by the Airport Support and Concessionaire sector in 2011.

Table 2.

Airport Support and Concessionaire Sector :
2011 Economic Impact
(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
192	$13.348	$20.078	$33.426

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
620	$33.175	$44.477	$77.652

For calendar year 2011, a total of 192 annual full-time equivalent employees can be attributed to this sector - within this category a total of 346 jobs are situated on the airport. The aggregate labour income of this sector was identified at $13.348 million. Other Expenditure activities were $20.078 million. Total direct value-added GDP was $33.426 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the overall economic impact of this sector can be realized. This category creates 620 full-time jobs, generating an annual labour income of $33.175 million. Other Expenditure activities were $44.477 million. In 2011, the total value-added GDP activity created by this sector's activities was $77.652 million.

2.3 Economic Impact of the General & Corporate Aviation Sectors at the Thunder Bay International Airport : 2011

The Thunder Bay International Airport supports a diverse, on-site general aviation (GA) community alongside an active corporate aviation presence.

Thunder Bay's GA firms undertake a variety of aviation-related activities, including : aircraft charter, sales and leasing; maintenance/overhaul/repair services; and, a variety of specialized support services. The airport is home to several large flight departments and a number of rotary-wing operations supporting the region's diverse resource extraction sector. There are two well-established Fix Base Operators (FBOs) on airport which handle itinerant air traffic.

Table 3 depicts the economic impact activity undertaken by the GA and corporate sector in 2011.

Table 3.

General & Corporate Aviation Sector : 2011 Economic Impact

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
243	$14.023	$23.150	$37.173

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
643	$37.427	$63.107	$100.534

For calendar year 2011, 243 annual full-time equivalent employees can be attributed to the general and corporate aviation sector operating on YQT - within this category a total of 263 jobs are situated on the airport. Their aggregate labour income was identified at $14.023 million. Other Expenditure activities were $23.150 million. Total direct value-added GDP was $37.173 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the significant impact of Thunder Bay's GA and corporate sectors can be realized. This category creates 643 full-time jobs, generating an annual labour income of $37.427 million. Other Expenditures activity was $63.107 million. In 2011, the total value-added GDP activity created by general and corporate aviation at the Thunder Bay International Airport was $100.534 million.

2.4 Economic Impact of the Air Cargo Sector at the Thunder Bay International Airport : 2011

Thunder Bay's current air freight industry is dominated by the express courier & mail segment. The Airport is also home to several national freight firms, although their interests are largely in support of Thunder Bay's express courier industry.

Table 4 depicts the economic impact activity undertaken by the Air Cargo sector in 2011.

Table 4.

Air Cargo Sector : 2011 Economic Impact

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
50	$1.625	$1.700	$3.325

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
131	$4.337	$4.634	$8.971

For calendar year 2011, a total of 50 annual full-time equivalent employees work on-airport in the air cargo sector - within this category a total of 62 jobs are situated on the airport. Their aggregate labour income was identified at $1.625 million. Other Expenditure activities were $1.700 million. Total value-added GDP was $3.325 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the overall impact of Thunder Bay's air freight sector can be realized. This

category creates 131 full-time jobs, generating an annual labour income of $4.337 million. Other Expenditures activity was $4.634 million. In 2011, the total value-added GDP benefit created by air cargo, courier and airmail activities at the Thunder Bay International Airport was $8.971 million.

2.5 Economic Impact of the Government Services Sector at the Thunder Bay International Airport : 2011

This sector includes all of the federal or provincial government agencies operating on the Airport. The significant activities of the Ontario Ministry of Natural Resources are included in this sector – the agency oversees fire-fighting activity over a large area of north western Ontario from their Thunder Bay base of operations. Apparently 2011 was an active year for the agency which is reflected in the fairly large number of part-time forestry worker totals included in this group's activities.

Table 5 depicts the economic impact activity undertaken by the Government Services sector in 2011.

Table 5.

Government Services Sector : 2011 Economic Impact

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
131	$5.335	$1.045	$6.380

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
341	$13.983	$2.809	$16.792

For calendar year 2011, a total of 131 annual full-time equivalent employees can be attributed to this sector - within this category a total of 245 jobs are situated on the Airport. Their aggregate labour income was identified at $5.335 million. Other Expenditure activities were $1.045 million. Total direct value-added GDP was $6.380 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the significant impact of the government sector can be realized. This category creates 341 full-time jobs, generating an annual labour income of $13.983 million. Other Expenditure activity was $2.809 million. In 2011, the total value-added GDP activity created by the government sector was $16.792 million.

2.6 Economic Impact of the On-Airport, Non-Aviation Sector at the Thunder Bay International Airport : 2011

The attractiveness of the industrial lands located on the Thunder Bay International Airport is reflected in the growing importance of the On-Airport, Non-Aviation sector. Currently 7 firms are included in this sub-group. One noteworthy addition since the 2008 economic impact report has been a major provider of solar energy attracted to the Airport.

Table 6 depicts the economic impact activity identified in the On-Airport, Non-Aviation sector in 2011.

Table 6.

On-Airport, Non-Aviation Sector : 2011 Economic Impact
(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
168	$4.833	$5.690	$10.523

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
436	$12.667	$15.295	$27.962

For calendar year 2011, a total of 168 annual full-time equivalent employees can be attributed to the On-Airport, Non-Aviation sector - within this category a total of 199 jobs are situated on the airport. Their aggregate labour income was identified at $4.833

million. Other Expenditure activities were $5.690 million. Total direct value-added GDP was $10.523 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the significant impact of the On-Airport, Non-Aviation sector can be realized. This category creates 436 full-time jobs, generating an annual labour income of $12.667 million. Other value-added GDP activity was $15.295 million. In 2011, the total value-added GDP activity created by the sector at the Thunder Bay International Airport was $27.962 million.

2.7 Economic Impact generated by Airport Visitor Spending : 2011

Spending by visitors travelling by air to the Thunder Bay area is an important contribution to the overall economic impact of the Airport. Visitors by air are defined as domestic, transborder or international in nature depending upon their point of origin. A smaller sub-set of visitor spending are the expenditures made by cockpit and cabin crews of air carriers who overnight or 'lay-over' at hotels within the Thunder Bay area for operational or crew rest reasons; additionally, passengers who have been delayed and require overnight accommodation have also been considered in the 'overnight expenses' category. An additional source of non-resident spending is attached to those non-resident students attracted to the Thunder Bay area by the local community college which has a significant on-site, aviation campus.

In attempting to capture the impact attributable to this sector, the consultants have selected the Conference Board of Canada's Tourism Economic Assessment Model [TEAM]. The TEAM model is a sophisticated, computer-based econometric tool designed to assess the impact of non-resident spending upon a local or provincial economy. The TEAM model output is presented and integrated into the overall study results.

From Table 7 an input total of $92.378 million of non-resident visitor spending was entered into the TEAM model. The model produced the results displayed in Table 8.

Table 7.

Spending by Non-Resident Visitors : 2011

		Totals
Non-resident visitors arriving by air †		$88,378,000
Aviation student & fire trainee spending ††		$2,225,000
Flight crew overnight expenses ††		$2,350,000
	Total	**$92,953,000**

† Thunder Bay International Airports Authority and Thunder Bay Tourism.
†† RP Erickson & Associates.

Table 8 depicts the economic impact attributable to non-resident visitor spending in the Thunder Bay area in 2011.

Table 8.

Spending by Non-Resident Visitors arriving by Air : 2011 Economic Impact

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
802	$26.155	$37.042	$63.197

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
1539	$65.384	$108.484	$173.868

For calendar year 2011 within the Thunder Bay area, a total of 802 annual full-time equivalent employee job positions can be attributed to non-resident visitor spending. The aggregate labour income of this workforce was identified at $26.155 million. Other Expenditure activities undertaken by firms benefiting from such spending were $37.042 million. The total direct value-added GDP for this segment was $63.197 million.

When the TEAM-generated multipliers are applied to the above direct economic activity, the significant impact of non-resident visitor spending upon the Thunder Bay area can be realized. This spending generated 1539 full-time jobs, creating an annual labour income of $65.384 million. Other Expenditure activity was $108.484 million. In 2011, the total value-added GDP activity created by this sector on primarily the Thunder Bay economy was $173.868 million.

2.8 The Economic Impact of New Construction at the Thunder Bay International Airport : 2011

The impact of the economic contribution accompanying annual capital spending on the Airport is significant. Capital spending arises from the Airport Authority's capital program alongside a range of tenant facility new construction and/or expansion projects. This capital investment has provided work for the local construction industry and Ontario's construction materials sector.

From the questionnaire survey, in 2011 $8.467 million of new capital construction on the Thunder Bay International Airport was identified. The TBIAA's on-going capital program accounted for 41 percent of this total.

Table 9 depicts the 'one-time' economic impact activity associated with capital spending on the Thunder Bay International Airport in 2011.

Table 9.

One-Time, New Construction on the Thunder Bay International Airport : 2011 Economic Impact

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
38	$3.141	$4.190	$7.331

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
54	$4.045	$6.987	$11.032

For calendar year 2011, a total of 38 annual full-time equivalent construction and support service jobs can be attributed to on-airport capital construction spending. The aggregate labour income was identified at $3.141 million. Other Expenditure activities were $4.190 million. Total direct value-added GDP was $7.331 million.

When the indirect and induced multipliers are applied, 'new' on-airport construction spending generated 54 full-time jobs, creating an annual labour income of $4.045 million. Other Expenditure activity was $6.987 million. In 2011, the total value-added GDP activity created by new construction on the Thunder Bay International Airport was $11.032 million.

In keeping with an intentionally conservative approach throughout this study, the consultants are not including the substantial economic impact attached to the construction of a major solar power facility built on the Thunder Bay International Airport in 2011. The direct benefits alone to the Thunder Bay area from this single capital

investment project have generated : 200 FTEs; $16.7 million in labour income; $22.3 million in value-added GDP and added over $39 million to the City's GDP total for 2011.

However, the 'one-time' nature of this particular benefit would have grossly skewed the overall impact of the 2011 construction activity on the Airport. Further, it is unlikely that the TBIAA would generate another non-aviation project of this magnitude in the foreseeable future – therefore we have chosen not to include these 2011 results, even though they have and did accrue within the Thunder Bay region, in the aggregate report findings.

2.9 The Aggregate Economic Impact of the Thunder Bay International Airport : 2011

At the Thunder Bay International Airport, some 59 commercial firms or government agencies were interviewed and their 2011 economic activities assessed. Additionally, the impact of non-resident visitor spending in the Thunder Bay area and the economic benefits associated with 'one-time' capital construction expenditures for 2011 have been combined with the data in Sections 2.1 through 2.8 to produce Table 10.

Table 10 depicts the aggregate economic impact of the Thunder Bay International Airport for 2011.

Table 10.

Aggregate Economic Impact of the Thunder Bay International Airport : 2011

(in millions, except FTEs)

Direct Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
2,086	$95.551	$122.198	$217.749

Total Impact

FTEs	Labour Income	Other Expenditures	Total Value added GDP
4,986	$243.324	$325.673	$565.977

For calendar year 2011, a total of 2,086 annual full-time equivalent employees can be attributed to the Thunder Bay International Airport; it is noted that within this total – 1631 jobs are located on the Airport. The aggregate labour income of this workforce was identified at $95.551 million. Other Expenditure activity was $122.198 million. Total direct value-added GDP located on the Thunder Bay International Airport was $217.749 million.

When the indirect and induced multipliers are applied to the above direct economic activity, the consequential impact of the Airport is realized. The Airport creates some 4,986 full-time jobs, generating an annual labour income of $243.324 million. Other Expenditure activity was $325.673 million. In 2011, the total value-added GDP activity created by the Thunder Bay International Airport was $565.977 million.

2.10 Discussion

In addition to providing nearly 5000 full-time jobs, the Thunder Bay International Airport's contribution to the GDP of Thunder Bay was over $565 million. This amounted to nearly 15 percent of Thunder Bay's 2011 GDP of $3.806 billion[1].

The distribution of the Economic Impacts by sub-category is presented in Table 11. This distribution has been calculated on the basis of on-airport activities and does not include those totals created by non-resident visitor spending and the one-time impact associated with new construction activities.

Table 11.

Distribution of Economic Impacts

The economic benefits of the on-airport firms are distributed :

	FTEs	Labour Income	Other Expenditures	Total Value added GDP
Air Carriers	37%	41%	36%	38%
Airport Support and Concessionaires	15%	20%	25%	23%
General & Corporate Av	20%	21%	29%	25%
Air Cargo	4%	3%	2%	2%
Government Services	11%	8%	1%	4%
On-Airport, Non-Aviation	14%	7%	7%	7%

[1] Conference Board of Canada (Estimate), January 2012.

Table 12 reviews the major employers in terms of direct jobs in the immediate Thunder Bay area; it is noted that the Airport is the fourth largest centre of employment in the region.

Table 12.

TOP 12 EMPLOYERS IN THUNDER BAY

Thunder Bay Regional Health Sciences Centre	2,500
Lakehead University	2,250
Lakehead District School Board	2,200
Thunder Bay International Airport †	**2,165**
City of Thunder Bay	1,855
Government of Ontario	1,849
St Joseph's Care Group	1,700
TB Catholic District School Board	1,521
Bombardier Transportation	950
Government of Canada	650
Confederation College	637
Abbitibi-Bowater Forest Products Inc	480

† Direct jobs including part-time and full-time employment

(Source : Thunder Bay Economic Development Commission and RP Erickson & Associates)

Data Generalities – 2011

When the economic impact totals are compared against Thunder Bay's 2011 enplaned and deplaned [E&D] passenger movement data (719,490), the results provide some interesting generalities.

Within the Thunder Bay area [2] :

Each 1000 E&D passengers supports 6.9 full time jobs.

Each 1000 E&D passengers supports $338,000 of annual labour income.

Each 1000 E&D passengers supports $787,000 of total GDP activity.

* * * * * * * * * * * * * *

Each time a B737 lands and takes off, it supports 1.79 FTEs;
$88,000 of annual labour income; and $205,000 of GDP activity.

* * * * * * * * * * * * * *

Each time a DHC-400 lands and takes off, it supports 1 FTE;
$47,000 of annual labour income; and $110,000 of GDP activity.

* * * * * * * * * * * * * *

A new daily 19-seat regional service linking Thunder Bay to a northwest Ontario community would support annual benefits of :
33 FTEs; $1.52 million of labour income; and, $3.52 million of total GDP activity

* * * * * * * * * * * * * *

[2] See Appendix IV for a methodology for the above data.

In addition to the quantifiable economic benefits displayed in this report, the Thunder Bay International Airport provides a wide range of ancillary, qualitative benefits to residents of the Thunder Bay area and the province as a whole. These range from societal advantages attached to the travel, tourism and transportation functions of the airport, through expansive career and hobby development possibilities to opportunities for volunteerism.

Volunteerism - 2011

Airports provide local residents with a number of volunteer opportunities, where local residents can pursue their recreational interests in like company at no cost to any level government. By example, the NOW Air Search & Rescue organization has some 60 active members who, by the Club's estimate, completed roughly 4500 hrs of volunteer activities in 2011 - this group undertake critical search & rescue missions in northwest Ontario. As well, the Nor'Western Flying Club estimates that it generated some 1000 hrs of annual volunteerism from its 30 members.

A number of Airport firms and agencies host school visits throughout the year. These services are undertaken on a 'no-charge, volunteer basis' and have the significant ancillary benefit of passing Thunder Bay and the province's rich aviation heritage on to future generations - not to mention those student visitors who may be attracted to a career in aviation.

2.11 Conclusions

In 2011, the Thunder Bay International Airport supported a considerable level of economic activity, primarily in the Thunder Bay area but also throughout the province and, to a lesser extent, the national economy.

In direct terms, the Airport :

- contributed 2086 full-time jobs;
- generated $95 million in labour income; and,
- created $218 million in total value-added GDP activity.

When indirect and induced forms of economic activity are included, the Airport generates :

- nearly 5000 full-time jobs;
- nearly ¼ billion dollars in annual labour income; and,
- well over ½ billion dollars of total GDP activity.

In the 21st Century virtually everyone in Canada travels any distance beyond 500 kms almost exclusively by air, especially to and from communities such as Thunder Bay which do not feature train service or long distance commutes over two-lane highways. Sustainable community or regional economic development plans cannot be based upon unreliable surface links. The air transport mode has evolved into an indispensible, if not critical, piece of transportation infrastructure for Thunder Bay - a lifeline linking the City and its northwest Ontario catchment area to centres of national and international commerce. In this day and age the lack of a suitable airport facility will imperil the development goals of any city, and lessen both the economic and social attributes which commercial aviation can enable within a community or region.

Clearly – the Thunder Bay International Airport is a critically important economic and social contributor to the City of Thunder Bay and northwest Ontario.

APPENDIX I

SURVEY QUESTIONNAIRE

SURVEY OF THE ECONOMIC SIGNIFICANCE OF THE THUNDER BAY INTERNATIONAL AIRPORT

Please complete this survey using data for calendar year 2011 or for your most recent fiscal year. All data will be treated in strict confidence and will not be released in a disaggregated form to any individual or agency. Only aggregate industry data will be included in the final report.

Please answer the questions as completely as you can. If you are not entirely certain of an answer, please give your best estimate – your estimate will surpass by far our best guess in accuracy.

If you have questions, please feel free to direct them to :

RP Erickson & Associates
Aviation Consultants
Calgary, AB
Phone: (403) 241-9633
Email: ericksn@telus.net

Ed Schmidtke
Manager, Business Development
Thunder Bay International Airports Authority
Phone: (807) 473-2602
schmidtke@tbairport.on.ca

Please EMAIL or FAX responses to :
EMAIL: rpeassoc@gmail.com **FAX: (403) 241-8696**

SECTION A: General Information

Name of firm: _____
Contact Name: _____
Contact's Phone #: _____
Contact email: _____

Please select the classification that best describes your firm's activities.

_____ Airport Terminal Concessionaire
_____ Cargo or Express serv.
_____ Corporate Aviation
_____
_____ General Aviation
_____ Government Agency
_____ On Airport, non-aviation
_____ Other
_____ Scheduled Air Carrier

SECTION B: Employment & Expenditures – 2011

We are seeking the impact from that portion of your firm's business activity which pertains to the presence of the Thunder Bay International Airport. You can use either calendar or fiscal year numbers.

Please round all financial data to the **nearest $10,000.**

Employment & Labour Expense – 2011

Enter the TOTAL number of jobs your firm provides	
Enter the number of FULL-TIME employees working for your firm. Please estimate in 40 hr per week, full-time equivalents. (eg. 1 part-time worker @ 20 hrs/week = 0.5 full-time employee)	
Enter Total annual payroll expense for all employees (full and part-time) including wages or salaries, PLUS all employee benefits.	**$**

Expenditures for Goods & Services – 2011

Enter the total operating expenditures for goods and services, but NOT including wages or salaries and employee benefits.	**$**

Capital Expenditures (New Construction) – 2011

Enter the total capital expenditures for building construction or renovations.	**$**

For office use

Section C: How are we doing ?

As a not–for–profit non-government corporation, the Thunder Bay International Airports Authority takes seriously our responsibility to this community in managing and operating the airport. We would welcome your candid thoughts and opinions and how you think we are doing.

Do you think the Thunder Bay International Airport is well-managed ?

Does the Thunder Bay International Airports assist or hinder business growth ?

What would be your recommendations on how the Airport Authority can foster growth at the airport ?

What would be your recommendations on how the Airport Authority can improve service delivery ?

Do you feel the TBIAA's capital program is keeping pace with Airport demand (ie. roads, parking, terminal building, airfield surfaces and facilities) ?

Based on your business plan, will your company grow, contract or maintain in terms of : a) gross revenues, and b) number of employees over the next 5 years ?

Additional comments may be added to the back of the questionnaire.

Do you have any comments regarding the 'social value' of the Thunder Bay International Airport to our community? By example – we think the airport provides a great place for career development or to pursue hobby interest in aviation and enables social gatherings between friends and family living in different parts of Canada or abroad. It also serves as a critical access point to the health care facilities both in Thunder Bay and elsewhere in the province.

What are your thoughts?

THANK YOU for your assistance – it is appreciated!

APPENDIX II

DATA BREAKDOWN

Direct Impact

	FTEs	Labour Income	Other Exp'tures	Total Value added GDP
Air Carriers & Support Services	462	$27.091	$29.303	$56.394
Airport Support & Concessionaires	192	$13.348	$20.078	$33.426
General & Corporate Aviation	243	$14.023	$23.150	$37.173
Air Cargo	50	$1.625	$1.700	$3.325
Government Services	131	$5.335	$1.045	$6.380
On-Airport, Non-Aviation	168	$4.833	$5.690	$10.523
Non-resident Spending	802	$26.155	$37.042	$63.197
New Construction	38	$3.141	$4.190	$7.331
Totals	**2,086**	**$95.551**	**$122.198**	**$217.749**

(in millions, except FTEs)

Total Impact

	FTEs	Labour Income	Other Exp'tures	Total Value added GDP
Air Carriers & Support Services	1,222	$72.306	$79.880	$152.186
Airport Support & Concessionaires	620	$33.175	$44.477	$77.652
General & Corporate Aviation	643	$37.427	$63.107	$100.534
Air Cargo	131	$4.337	$4.634	$8.971
Government Services	341	$13.983	$2.809	$16.792
On-Airport, Non-Aviation	436	$12.667	$15.295	$27.962
Non-resident Spending	1539	$65.384	$108.484	$173.868
New Construction	54	$4.045	$6.987	$11.032
Totals	**4,986**	**$243.324**	**$325.673**	**$565.997**

(in millions, except FTEs)

The above direct data was collated from the survey questionnaire : as detailed in Section 1.3, with the exception of the Non-resident Spending category which was derived from the TEAM econometric model as explained in Section 2.8; and, New Construction Spending on the Thunder Bay International Airport, as discussed in Section 2.9.

APPENDIX III

GENERALITIES METHODOLOGY

Each 1000 E&D passengers creates 6.9 full time jobs.
(4986 FTEs ÷ 719,490 annual E&D passengers x 1000)

Each 1000 E&D passengers creates $338,000 of annual labour income.

($243.324 million annual labour income ÷ 719,490 annual E&D passengers x1000)

Each 1000 E&D passengers creates $787,000 of GDP activity.

($565.977 million total GDP ÷ 719,490 annual E&D passengers x 1000)

Each time a B737 lands and takes off, it generates 1.79 FTEs; $88,000 of annual labour income; and $205,000 of GDP activity.
(B737 at 130 seats average (considers the 600 model @ 120 seats and the 700 model @ 140 seats) x2 or a multiple of .26 applied against the 1000 E&D passenger data set)

Each time a Bombardier DHC-8 lands and takes off, it generates 1 FTE; $47,000 of annual labour income; and $110,000 of GDP activity.
(DHC-400 at 70 seats x 2 or a multiple of .14 applied against the 1000 E&D passenger data set)

A new daily 19-seat regional service linking Thunder Bay to a northwest Ontario community would support annual benefits of : 33 FTEs; $1.52 million of labour income; and, $3.52 million of total GDP activity

Estimated benefit of a new 19-seat regional service Thunder Bay to another northwest Ontario community was derived : 19 passengers x 365 days at 70 percent load factor = 4,850 annual passengers; a multiple of 4.85 x the 1000 E&D passenger variables.

APPENDIX IV

THE TAX IMPACTS OF THE
THUNDER BAY INTERNATIONAL AIRPORT

The Tax Impacts of the Thunder Bay International Airport

Introduction

Econometric Research Limited was retained on sub-contract to RP Erickson & Associates to estimate the tax impacts of aviation activities on the federal, provincial and municipal treasuries by the Thunder Bay International Airport for 2011.

The impact model used to estimate the tax impacts is a special application of a generic model (SEIM: Ontario) developed by Econometric Research Limited. It is a unique model that captures the economic impact of program or activity expenditures at the local level (counties or economic regions), the provincial level (Ontario) and the national level. The model is based on a proprietary technology which integrates input-output analysis and location theory.

The model utilizes a large set of economic and technical databases that are published by Statistics Canada. A short list includes the inter-provincial input-output tables, employment by sector, taxes by type of tax and the level of government collecting it, prices of products, energy used in physical and energy units, etc.

The SEIM system generates a range of taxes (eg. income taxes, GST, liquor and tobacco taxes, property taxes, etc.) each of which is linked to the level of government receiving it. For example, the federal government receives the proceeds from the GST tax, the provincial government receives the Indirect Business Taxes and local governments receive both Property and Business taxes.

The Results

As our analysis clearly depicts the three levels of government derive substantial revenues related to the aviation activities generated by the Thunder Bay International Airport. The federal government derives the majority – receiving annual tax revenues of roughly $194.4 million; whereas, the provincial government derives a total of $124.6 million. Municipal governments in the airport's catchment area collect some $37.1 million related to the economic activities of the airport.

Our model assesses a total of $356.1 million which was generated by the economic activities of the airport in 2011 as shown in Table 1 – similar totals could be expected annually based on the airport repeating this level of activity. The largest contributions are made by Personal Income Taxes ($217.0 million) and the Corporate Profit Taxes ($58.6 million). Local governments also collect revenue on airport-generated employment income which is capitalized into property taxes and also on business

activities supported by the new incomes sustained by the airport's economic performance.

Table 1
Tax Impacts of the Thunder Bay Airport
(Thousands of 2011 Dollars)

	Federal	Provincial	Local	Total
Personal Income Tax	$140,671	$76,350	$0	$217,021
Harmonized Sales Tax	$16,174	$25,879	$0	$42,053
Tariffs	$764	$0	$0	$764
Corporate Profit Taxes	$36,768	$21,868	$0	$58,636
Property & Bus. Tax	$0	$0	$37,080	$37,080
Tobacco & Liquor Tax	$0	$498	$0	$498
Total	**$194,377**	**$124,595**	**$37,080**	**$356,052**

Source: Econometric Research Limited