

InterVISTAS

a company of Royal HaskoningDHV

FINAL REPORT:

Billy Bishop Toronto City Airport (BBTCA)

Economic Impact Study



PREPARED FOR
PortsToronto

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19 December 2014

Executive Summary

Billy Bishop Toronto City Airport (BBTCA) contributes directly to employment and the economy in Toronto and area. The economic contribution of the airport to the community is termed the economic impact of BBTCA. This study examines the current economic impacts of the airport on the regional economy. The airport continues to be an important facilitator in the growth of trade and tourism for Toronto.

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project, or a change in government policy or regulation. The three major components of economic impact are classified as direct, indirect and induced impacts. These classifications are used as a basis for the estimation of the total economic impact of BBTCA.

Ongoing Economic Impact

Direct economic impact measures the employment directly associated with the airport. This includes employment from organizations such as airlines, airport operations, security, concessions at the airport and air traffic control firms. Direct economic impacts are calculated based on employment data provided by employers directly related to the airport.

The ongoing operations at BBTCA generate annually an estimated 1,860 direct person years of employment, earning approximately \$100 million in wages and salaries. Direct employment generates approximately \$220 million in direct gross domestic product and \$980 million in direct economic output in the regional economy annually.

Total impacts are calculated by adding together the direct, indirect, and induced impacts. Including indirect and induced multiplier impacts, ongoing economic impacts of BBTCA estimate a total of over 6,200 person years of employment.

Total earnings of all employees amount to \$385 million in wages and salaries. Furthermore, BBTCA operations contribute an estimated \$695 million and over \$2 billion, in total gross domestic product (GDP) and total economic output, respectively. The total economic impacts of ongoing operations at BBTCA are summarized in **Figure ES-1**.

Ongoing Economic Impacts of BBTCA

Annual Direct Impacts:

- 1,960 jobs
- 1,860 person years
- \$100 million in wages
- \$220 million in gross domestic product (GDP)
- \$980 million in economic output

Note: Results are based on a review of 2014 operations.

Figure ES-1: Annual Total Ongoing Economic Impacts of BBTCA

Type of Impact	Employment (Jobs)	Employment (Person Years)	Wages (\$ millions)	GDP (\$ millions)	Economic Output (\$ millions)
Direct	1,960	1,860	100	220	980
Indirect	3,090	2,930	185	315	610
Induced	1,510	1,430	100	160	480
Total Impacts	6,560	6,220	385	695	2,070

Note: Wages, GDP and Economic Output are in 2014 prices.

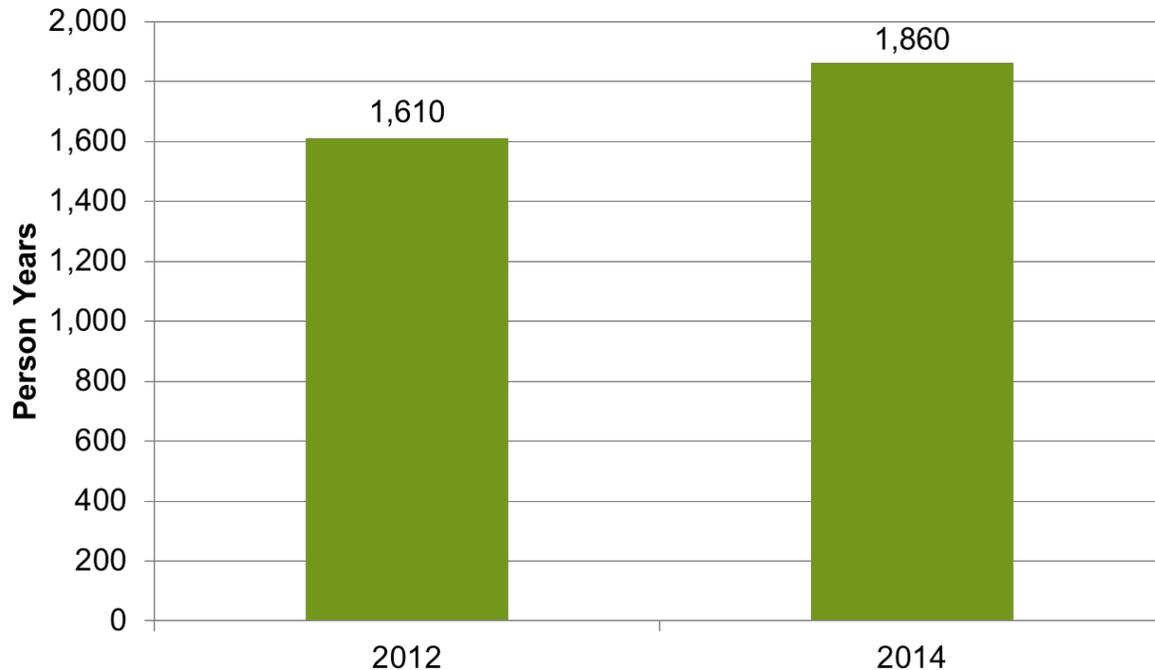
The air services at BBTCA also bring in non-local visitors to Toronto, however, the financial impacts of tourism dollars spent by travellers through BBTCA are not factored in the economic impact analysis of this study, the spending impacts have been estimated based on average U.S. visitor spending data travelling by air and airport passenger data. This study found that the non-local visitor spending impacts of the air services at BBTCA amounts to approximately \$150 million a year.

Comparison of Employment with Previous Studies

The 2014 economic impact study shows that on-going operations at BBTCA continue to make a considerable contribution to local employment and the provincial economy. In comparison to the 2012 Economic Impact Study that InterVISTAS conducted, BBTCA has increased its direct employment base to 1,860 person years.¹ This compares to 1,610 person years in 2012. Average wages per person year have also increased from \$46,000 to \$52,800. **Figure ES-2** illustrates the employment levels at BBTCA in 2012 and 2014.

¹ Ground transportation employment for the 2014 study was analyzed using a different methodology than the 2012 study, due to improved data sources. This resulted in a higher employment impact in 2014 for this sector than what was reported in the 2012 study.

Figure ES-2: Direct Employment from Ongoing Operations at BBTCA, 2012 and 2014



Source: InterVISTAS Consulting Billy Bishop Toronto City Airport Economic Impact Studies (2012 and 2014).

Annual Tax Impacts

Ongoing operations at Billy Bishop Toronto City Airport contribute to government revenue, including revenues received by federal, provincial and local governments. Total taxes paid on an annual basis, by passengers, employers, and employees at BBTCA, are estimated at \$74 million per year.

The majority of taxes collected accrue to the federal and provincial governments at 58% and 38%, respectively. The municipal government also benefits from BBTCA, through the collection of property taxes and Payments-in-Lieu of Taxes amounting to an estimated \$3 million (4% of total taxes collected). **Figure ES-3** provides a summary of the taxes collected.

Tax Impacts of BBTCA

Total:

- \$74 million

Federal Government:

- \$43 million (58% of total)

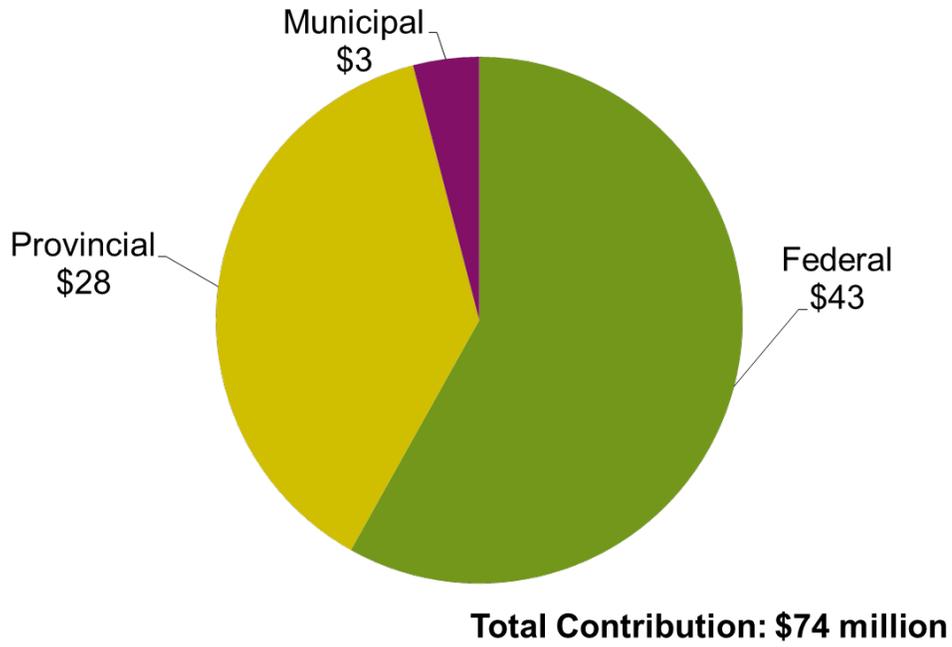
Provincial Government:

- \$28 million (38% of total)

Municipal Government:

- \$3 million (4% of total)

Figure ES-3: Annual Estimated Tax Revenues of BBTCA (\$ Millions)



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1 Introduction

1.1 Billy Bishop Toronto City Airport (BBTCA)

With its proximity to the city's downtown core, the airport provides links to business centres and destinations across North America. Through available air services, the airport has become a critical facilitator of the growth of trade and tourism between Toronto and North American centres. In 2014, the airport celebrated the 75th anniversary of commercial air service; the airport has grown over those 75 years to service over 2.3 million passengers annually in 2013.²

Porter Airlines has served the airport since 2006, and offers service to 19 cities in Canada and the United States, including Ottawa, Montréal, New York, Boston, Chicago and Washington, D.C. Since May 2011, Air Canada has had service at the airport with flights to Montréal and Moncton (via Montréal), operated by Toronto-based Sky Regional Airlines. BBTCA also supports air charter operations, general aviation,³ helicopter operations, flight training, air ambulance services, maintenance and repair services, airborne sensing and sightseeing tours. In 2013, the airport was recognized by Skytrax as one of the best small airports in the world.⁴

1.2 Passenger Traffic

The convenience and accessibility of Billy Bishop Toronto City Airport, coupled with its air services to major business and financial centres, make the airport an attractive choice for travellers. Passenger traffic at the airport has grown consistently over the last several years. Approximately 2.3 million passengers travelled via the airport in 2013.⁵ With its continued improvement of facilities and expansion of services, passenger traffic at the airport is projected to reach 2.4 million passengers in 2014, as shown in **Figure 1-1**.

Figure 1-2 shows the volume of aircraft movements at BBTCA from 2010 to 2013. While local traffic has fallen over the past four years, itinerant movements have increased; the increase and decrease have cancelling effects though, as total movements have remained relatively stable.

Billy Bishop Toronto City Airport

- Over 2.3 million enplaned/deplaned passengers in 2013
- 114,400 aircraft movements in 2013

Toronto, ON

- CMA population is approximately 6.0 million in 2013

Measurements of Economic Impact

- Employment (Jobs & Person Years)
- Earnings
- Gross Domestic Product (GDP)
- Economic Output

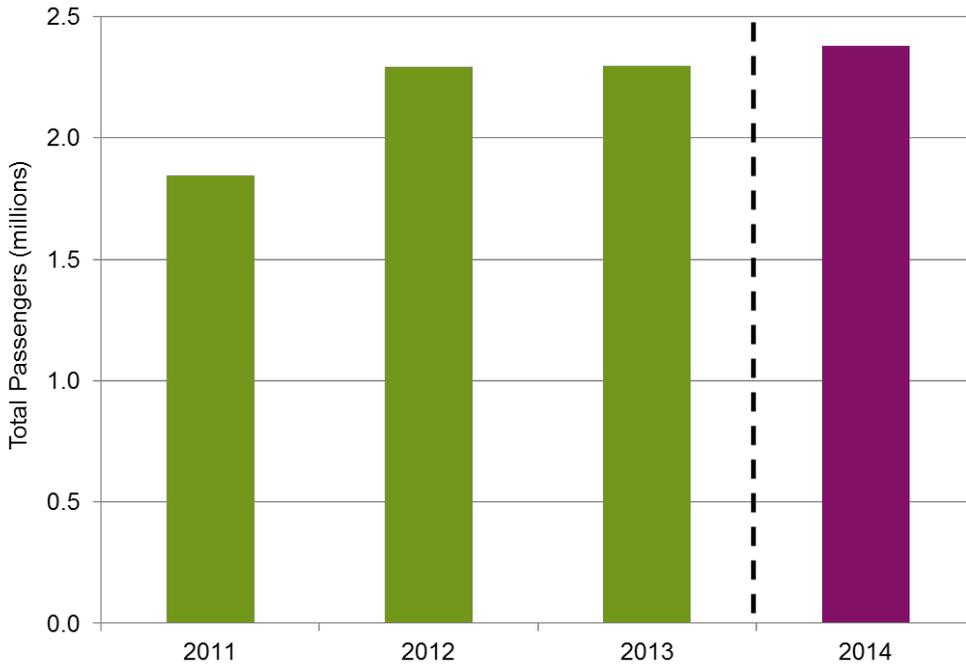
² Billy Bishop Toronto City Airport, PortsToronto, <http://www.portstoronto.com/airport.aspx>

³ The economic contribution of general aviation activity represents a relatively small overall economic contribution to the airport.

⁴ Billy Bishop Toronto City Airport, PortsToronto, <http://www.portstoronto.com/airport.aspx>

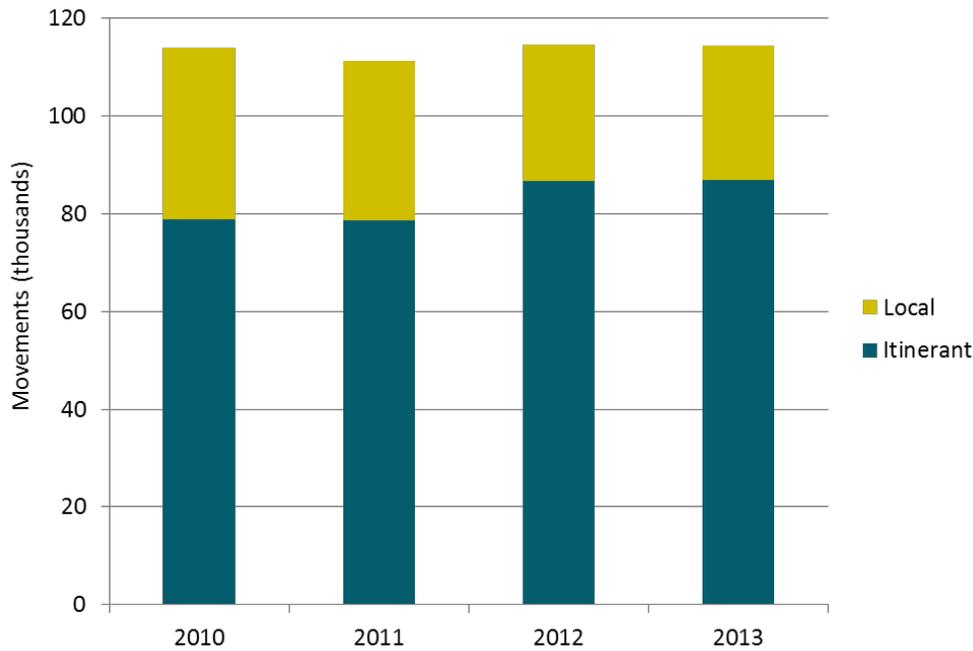
⁵ Passenger traffic figures include connecting passengers.

Figure 1-1: Air Passenger Traffic at Billy Bishop Toronto City Airport (BBTCA), 2011-2014



Note: 2014 passenger totals is the forecasted total.
Source: PortsToronto.

Figure 1-2: Total Aircraft Movements at BBTCA, 2010-2013



Source: Statistics Canada, CANSIM Table 401-0023.

1.3 Toronto Industry and Economy

In 2013, the Toronto metropolitan area had a population of approximately 6.0 million people (the largest in Canada), while the city itself had a population of approximately 3.0 million people. The total labour force of Toronto amounts to 1.4 million people, with the top industries in Toronto including financial services, business & professional services, design, education, fashion, film & television, food & beverage, music, technology, tourism, green and life sciences. The median income for all employment in Toronto amounted to \$58,400 per annum in 2010.⁶

The City of Toronto is recognized as the business capital of Canada, and ranks among the top financial centres in the world. Many leading companies and institutions have their corporate headquarters in Toronto. The City of Toronto achieved GDP equivalent to \$157 billion in 2013, comprising 11% of Canada's national GDP.⁷ Annually, businesses based in Toronto export goods and services to international destinations amounting to over \$70 billion and report retail sales totalling \$70 billion.⁸

1.4 What Is Economic Impact?

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project, or a change in government policy or regulation. Economic impact is most commonly measured in several ways, including employment, income, gross domestic product (GDP), and economic output, as explained in **Figure 1-3**.

⁶ Statistics Canada, Population of census metropolitan areas and City of Toronto, Facts About Toronto.

⁷ City of Toronto website.

⁸ City of Toronto website.

Figure 1-3: Measurements of Economic Impact



1.5 The Economic Impact of the Airport

Through its business and commercial activities and operations, Billy Bishop Toronto City Airport contributes directly to employment and economy in Toronto and area. It also acts as an economic catalyst, facilitating the growth of regional businesses and industrial sectors. The economic contribution of the airport to the community is termed the economic impact of BBTCA.

The three major components of economic impact are direct, indirect, and induced impacts. These distinctions are used as a base for the estimation of total economic impact of an airport. Each of these three components requires different tools of analysis. Employment impact analysis determines the economic impact in terms of jobs created and salaries and wages paid out. In the case of the airport, the direct, indirect, induced, and total numbers of person years created at the airport are examined to produce a snapshot of airport operations.

- **Direct** impacts account for the economic activity of the target sector itself. It is employment that can be attributed to the operation and management of BBTCA, including firms located onsite at the airport and airport-dependent businesses offsite. Thus, the direct employment base includes employees of airlines, fixed base operators, aircraft maintenance, among others, onsite at the airport.
- **Indirect** impacts are those that result because of the direct impacts. It is employment in downstream industries that results from the presence of BBTCA. For example, suppliers of food to fixed based operators at BBTCA would be considered indirect employment. Indirect employment is generated in industries that supply or provide services to the airport employers.
- **Induced** impacts are economic impacts created by the spending of wages, salaries, and profits earned in the course of the direct and indirect economic activities. Induced employment impacts are generated from expenditure by individuals employed indirectly or directly. For example, if an airline employee at BBTCA decides to expand or re-model his/her home, this would result in additional (induced) employment hours in the general economy. The home renovation project would support hours of induced employment in the construction industry, the construction materials industry, etc.
- **Total** impacts are the sum of direct, indirect, and induced effects.

1.6 Study Outline

This report provides an estimate of the economic impacts of employment related to Billy Bishop Toronto City Airport.

- The direct employment base from the results of a survey of employers related to the operations at BBTCA is measured and described in **Section 2**.
- Using industry standard multipliers, **Section 3** infers the indirect and induced employment impacts related to BBTCA operations.
- **Section 4** also uses multipliers to infer other economic impacts related to BBTCA operations, such as GDP and economic output.
- In addition, **Section 5** measures the tax contribution of BBTCA by estimating taxes paid by employers, employees and passengers using the airport.
- Finally, the economic impact study results are summarised and compared to previous economic impact studies in **Section 6**.

2 Direct Economic Impacts

2.1 Introduction

InterVISTAS conducted this economic impact study during the summer/fall of 2014. The study estimates the economic impact of BBTCA's operations in August 2014. The results reflect employment and operations as a current snapshot of 2014.

This section describes the total employment, in both jobs and person years (full time equivalents)⁹, and estimated payroll attributable to employers directly related to on-going operations at Billy Bishop Toronto City Airport (BBTCA). The direct economic impacts are based on data from the employer survey.

Employment attributable to on-going BBTCA operations was measured by surveying businesses and organizations located at BBTCA and other businesses economically linked to the airport. Specifics of the survey methodology are contained in the **Appendices** and a sample copy of the survey is provided in **Appendix B**. Telephone follow-up was conducted to increase the response rate. In total, 67% of the businesses and organisations contacted responded to the survey, representing nearly 90% of total person years of employment covered by the survey.

This is a high response rate for a survey of this type.¹⁰

A summary is provided in **Figure 2-1**.

Annual Operations at BBTCA support:

- 1,960 direct jobs
- 1,860 direct person years
- \$100 million in wages

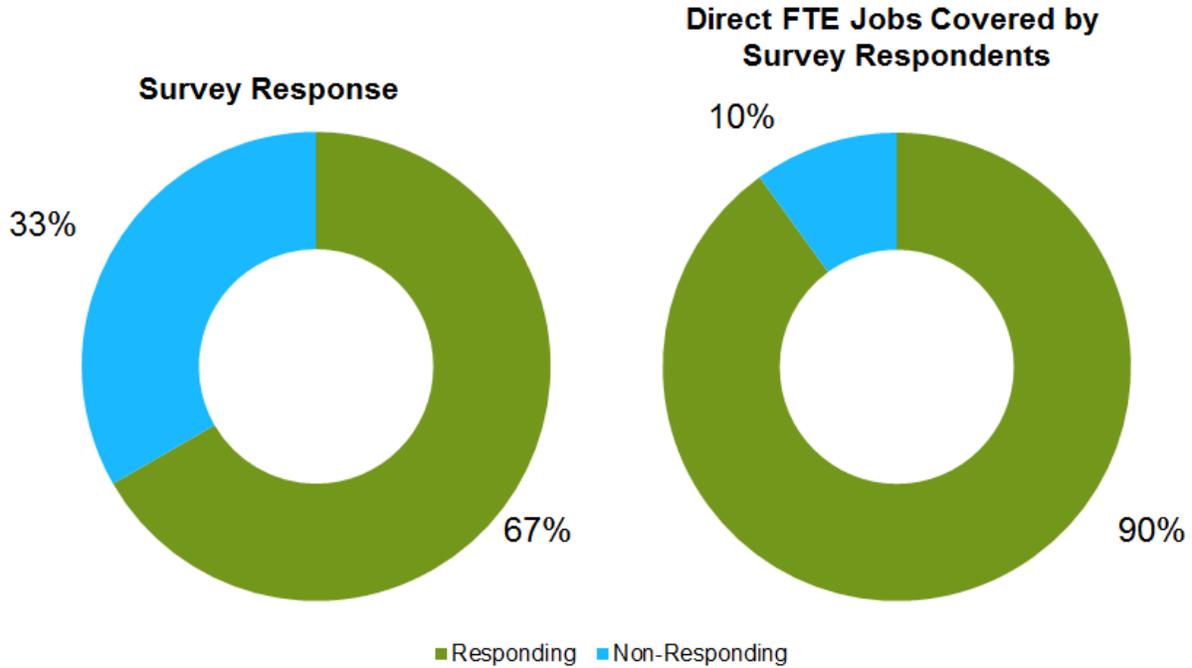
Direct employment related to BBTCA operations includes:

- 99.6% permanent jobs
- 0.4% seasonal jobs

⁹ One person year is equivalent to 1,832 hours of work. See **Appendix C** for a detailed calculation of the number of hours per person year. Person years are the same as full time equivalents (FTEs).

¹⁰ The average response rate to a survey of this nature is in the range of 60%-70%.

Figure 2-1: Response Rate for BBTCA Economic Impact Employment Survey



For firms where their survey was not fully completed, employment and other metrics were conservatively estimated using a proven and accepted methodology. This includes referencing the survey results for firms of similar business types, or using past employment surveys. There may be firms that were not surveyed because their existence was not known. Employment for these non-surveyed firms was not estimated because there was no basis for assessment. We expect that the volume of missed employment would be minimal. For this study, approximately 180 jobs were inferred.

This section also examines the employment generated by on-going operations at BBTCA in more detail. Jobs are broken down by:

- Full-time versus part-time and seasonal employment; and
- Employment by job category

2.2 Direct Employment and Wages

Every arrival of a passenger flight at Billy Bishop Toronto City Airport generates employment hours for individuals with jobs involved in handling passengers, their baggage, cargo and the aircraft. This employment includes customer services, airline crew, ground handling, cleaning, maintenance, etc. It also includes some overhead labour (e.g., clerical and administrative staff), and the associated employment of ground transportation firms and accommodation providers that service passengers of the airport. The direct impacts are the employment generated largely within the aviation sector associated with the operating and servicing of air services.

Direct employment related to on-going operations at BBTCA amounts to approximately 1,960 jobs. After adjusting for part-time and seasonal employment, the 1,960 jobs amount to 1,860 person years of employment.¹¹ Employees at BBTCA and related firms earn approximately \$100 million in wages, yielding an average of roughly \$52,800 per person year of employment. This average wage is higher than the national average (\$47,400) and Ontario's average wage (\$47,800).¹² Employment figures are summarised in **Figure 2-2** for wages, as well as jobs and person years.

Figure 2-2: Direct Employment and Wages at Billy Bishop Toronto City Airport (BBTCA)

Type of Impact	Employment (Jobs)	Employment (Person Years)	Wages (\$ Millions)
Direct Impacts	1,960	1,860	\$100

Notes:

Wages are in 2014 prices.

Total direct employment includes persons on contract.

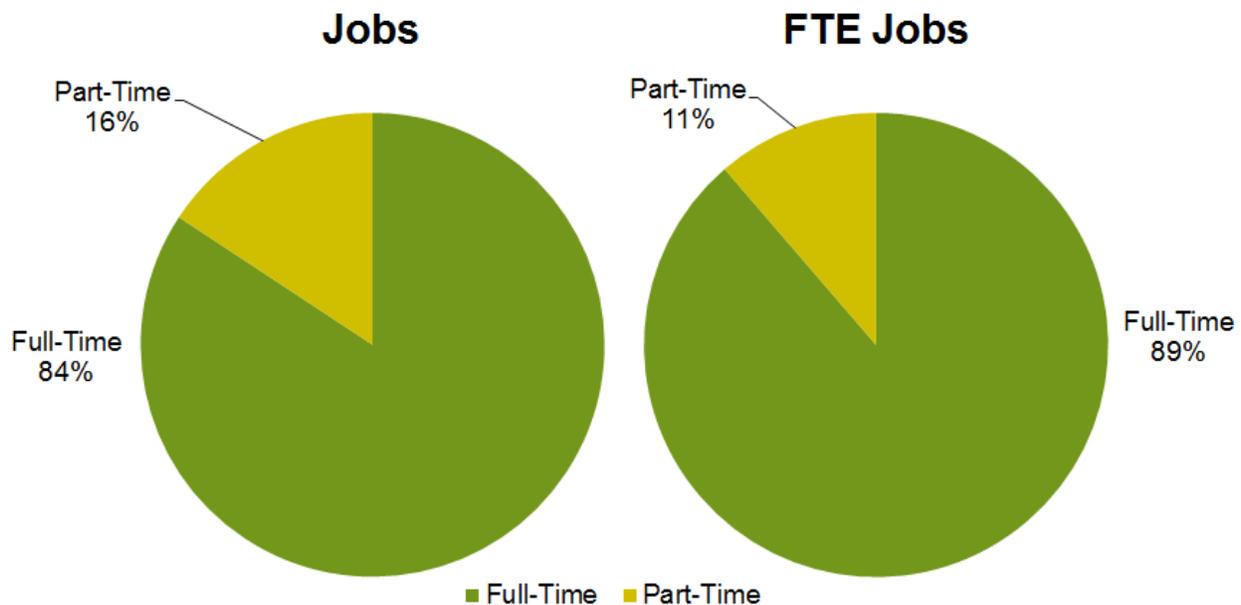
¹¹ Of this total, approximately 150 person years were inferred for firms that did not respond to the survey. See **Appendix E** for details.

¹² Based on 2013 average weekly wages. Statistics Canada, CANSIM Table 281-0027.

2.3 Direct Full-time, Part-time, Seasonal and Contract Employment

Of the surveyed direct employment attributable to BBTCA operations and other airport related businesses in 2014, 1,540 person years (or 99%) are from firms located onsite at the airport; the remaining 20 person years (1%) are from offsite firms related to the airport. Based on surveyed direct employment, approximately 99.9% of onsite and offsite jobs related to on-going operations at BBTCA are permanent positions, while 0.1% of these jobs are seasonal positions. Approximately 89% of the permanent positions are full-time positions (in terms of person years). The breakdown of permanent and seasonal jobs by full-time and part-time positions is presented in **Figure 2-3**.¹³

Figure 2-3:
Full-Time vs. Part-Time Employment of Onsite and Offsite Jobs at Billy Bishop Toronto City Airport (BBTCA)



2.3.1 Contract Employment

Some employers contract out services to individuals and other firms. It is estimated that 50 jobs, equivalent to 48 person years of employment, are from contract individuals and firms.

¹³ Breakdown of jobs by full-time and part-time positions does not include contract and inferred employment.

2.4 Direct Employment by Industry

A breakdown of direct employment at BBTCA, by industry type, provides insight into the different industries directly related to the airport. These industries range from airlines to accommodations. The breakdown is illustrated in **Figure 2-4**.

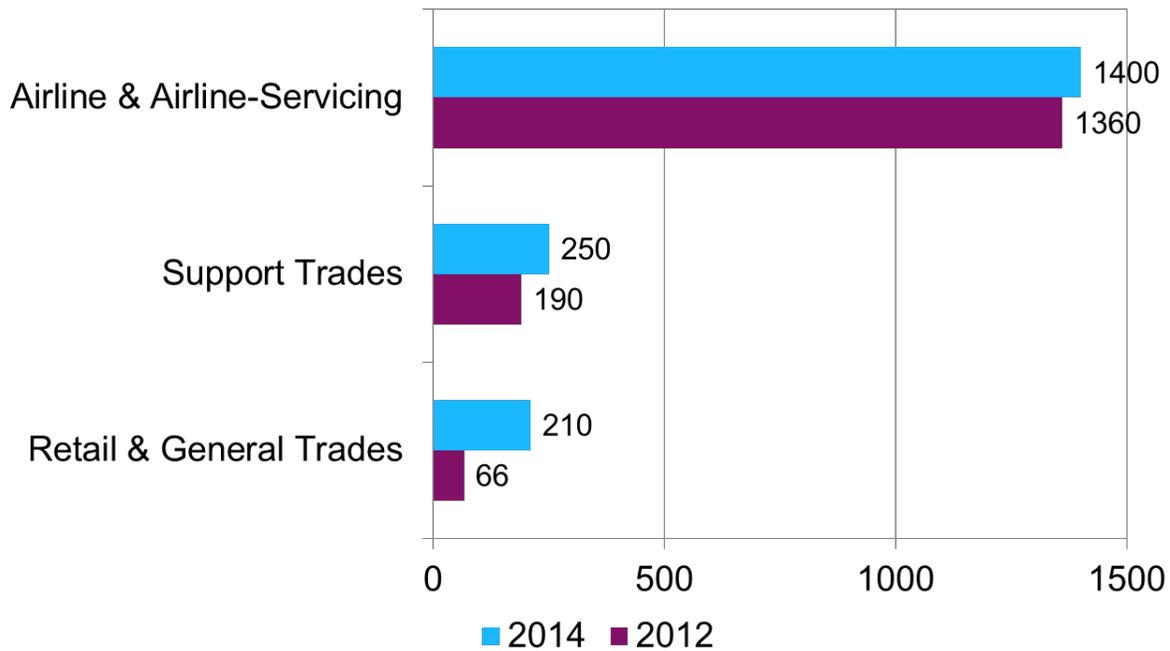
Figure 2-4: Direct Employment by Industry at Billy Bishop Toronto City Airport (BBTCA)



2.5 Direct Employment by Job Category

Billy Bishop Toronto City Airport is a source of employment opportunities for individuals with a broad range of skills. Most businesses require a combination of management, clerical and trades employees. Beyond that breakdown, employment at BBTCA can be classified into airline and airline-servicing trades, support trades, retail trades and general trades as shown in **Figure 2-5**. Close to 1,400 (75%) of direct person years are classified as airlines and aircraft servicing positions by BBTCA employers and related businesses. Support trades account for 15% of BBTCA's direct employment base with 250 person years. Approximately 10% (210 person years) can be classified as retail trades (including food, hotel and taxi) and general trades. **Figure 2-5** also shows a comparison of direct jobs by job category in 2012 vs. 2014. There has been growth in person years in all 3 job categories, with the largest percentage growth in retail and general trades.

Figure 2-5: Job Categories at Billy Bishop Toronto City Airport (BBTCA): 2012 vs. 2014



3 Multiplier Economic Impacts

3.1 Introduction

The previous sections discussed how direct employment related to on-going operations at Billy Bishop Toronto City Airport was measured and presented the results. However, the employment impact of the airport does not end there; other sectors of the economy are dependent on these employers' businesses. *Indirect* employment is generated by suppliers to the airport. Additionally, there may be a general stimulus to the economy of the Greater Toronto Area (GTA) and surrounding regions when direct (and indirect) employees spend their wages. These employment effects are referred to as *induced* employment. Total employment effects are the sum of direct, indirect, and induced effects.¹⁴

Both indirect and induced effects have been calculated using Statistics Canada economic multipliers and ratios for Ontario from the Interprovincial Input-Output model.¹⁵ See **Appendix G** for additional discussion on the multipliers and ratios used in this analysis.

3.2 Indirect Employment

Indirect employment is employment in non-airport industries that supply or provide services to this industry. Using Ontario employment impact multipliers, approximately 2,930 person years were estimated for total indirect person years related to BBTCA. This total suggests that an estimated 2,930 person years of employment are indirectly generated in industries in the Greater Toronto Area and surrounding regions that supply the businesses of BBTCA. Labour income associated with the total indirect employment is estimated at \$185 million per annum.

¹⁴ Emphasis is placed on the direct economic impacts as these are based on data from the employer survey and are clearly identifiable. The multiplier impacts are estimated using Statistics Canada data, and are not directly measured by the surveys conducted as part of this study.

¹⁵ The multipliers used for the analysis are based on Statistics Canada economic multipliers for Ontario from the 2008 Interprovincial Input-Output model. These multipliers were updated with Consumer Price Indices to account for inflation. See **Appendix G** for more information on the Statistics Canada Multipliers used in this analysis.

3.3 Induced Employment

Induced employment is somewhat more complicated than indirect employment. It is employment created because of expenditures by individuals employed both directly and indirectly by the airport's businesses. It is the demand for goods and services generated by wage earnings from economic activity at the airport. Induced employment attributable to BBTCA is estimated at 1,430 person years. Induced employment is associated with a wage bill of \$100 million per annum.

3.4 Total Employment

Figure 3-1 summarises the direct, indirect, induced and total employment generated by on-going operations at BBTCA.

Figure 3-1: Annual Direct, Indirect, Induced and Total Employment Impacts of BBTCA

Type of Impact	Employment (Jobs)	Employment (Person Years)	Wages (\$ Millions)
Direct	1,960	1,860	100
Indirect	3,090	2,930	185
Induced	1,510	1,430	100
Total Impacts	6,560	6,220	385

Note: Wages are in 2014 prices.

4 Other Economic Impacts

4.1 Introduction

Previous sections of the report focused on the employment impacts of operations at Billy Bishop Toronto City Airport. This section turns to the broader economic impacts of BBTCA that are measured in dollar terms.

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

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

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

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

4.2 Economic Output and GDP Impacts

The direct employment from ongoing BBTCA airport operations generates \$220 million in direct GDP and \$980 million in direct economic output in the Toronto economy. Including multiplier effects, operations at BBTCA support \$695 million in total (direct, indirect and induced) GDP and over \$2 billion in total economic output, economy-wide in the Greater Toronto Area and surrounding regions. **Figure 4-1** provides economic output and GDP impacts related to on-going operations at BBTCA for the Greater Toronto Area and surrounding regions.

Figure 4-1: Direct and Total GDP and Economic Output at BBTCA

Type of Impact	GDP (\$ Millions)	Economic Output (\$ Millions)
Direct	220	980
Indirect	315	610
Induced	160	480
Total Impacts	695	2,070

Note: GDP and Economic Output are in 2014 prices.

4.3 Estimated Non-Local Visitor Spending

The air services at BBTCA will bring in non-local visitors to Toronto, spending money on items such as accommodations, food and beverage, retail and local transportation in the city. Although the financial impacts of tourism dollars spent by travellers through BBTCA are not factored in the economic impact analysis of this study, non-local visitor spending is estimated by applying average U.S. visitor spending data from Tourism Toronto to BBTCA transborder passenger traffic.

Based on forecasted 2014 passenger traffic information from PortsToronto, it is estimated that approximately 160,000 passengers arriving at BBTCA from the U.S. are non-local visitors.¹⁶ On average, U.S. visitors arriving by air in Toronto spend approximately \$920 per trip.¹⁷ By applying the average U.S. visitor spending data, this study found that the non-local visitor spending impacts of the air services at BBTCA amounts to approximately \$150 million a year.

¹⁶ It is assumed that 50% of forecasted 2014 enplaned non-connecting transborder passengers are non-local visitors.

¹⁷ U.S. visitor characteristics were obtained from the Toronto Visitor Market Report (produced by Tourism Toronto), which contains 2011 statistics on U.S. visitors to Toronto arriving by plane. More recent data on visitor spending by U.S. visitors arriving by all modes of transportation is not used in this estimate, as this is shifted downwards by visitors who travel by other modes of transportation. Data for the full year of 2011 was used in the estimate and adjusted to 2014 dollar values to account for inflation.

5 Tax Impacts

5.1 Introduction

This part of the report documents the current contribution to government revenues resulting from current operations at Billy Bishop Toronto City Airport and associated economic activity. This includes revenues received by federal, provincial and local governments.

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

- **Taxes paid by employers and employees.** These are taxes paid by the airport employers and employees. They include income and payroll taxes, social insurance contributions (such as the employment insurance premiums), the federal and provincial fuel taxes and property taxes.¹⁸
- **Taxes and fees paid by passengers.** Visitors pay various taxes and fees. For example, these include taxes on personal expenditures at BBTCA such as taxes on airline tickets and taxes on single night hotel stays by connecting passengers, as well as the Airport Improvement Fee (AIF).
- **Taxes and Payment-In-Lieu Taxes paid by the PortsToronto.** BBTCA pays taxes in the form of property taxes. Government revenues paid by PortsToronto also include the Gross Revenue Charge and Payments-in-Lieu of Taxes (PILT).

For each category, taxes paid to the federal, provincial and local levels of government are separately identified.¹⁹

The purpose of this section is to present the tax revenue contributions resulting from the activity attributable to BBTCA. As with all such studies, a conceptual decision has to be made as to how broad a definition of *economic activity* should be used in measuring the impacts.

Annual tax contributions of BBTCA amount to:

- \$74 million

Annual tax contribution of BBTCA by level of government:

- \$43 million to the federal government (58%)
- \$28 million to the provincial government (38%)
- \$3 million to the municipal governments (4%)

Annual tax contributions of BBTCA by level of tax payer:

- \$21 million by passengers, \$49 million by employers and employees and \$4 million by PortsToronto

¹⁸ Property tax payments made by employees are not included in this analysis; however, it is important to note that these payments also contribute to municipal tax benefits.

¹⁹ For the most part, this study **estimates** (some tax envelopes were measured directly, e.g., tenant property taxes) taxes paid from information on the passengers, employers and employees at the airports. In a few situations, such as the corporate income tax paid by employers, an approximate method was used to estimate taxes paid. In every case conservative methods were used. No major tax has been excluded.

For this study a relatively narrow definition has been taken, for example, the following have **not** been included:

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

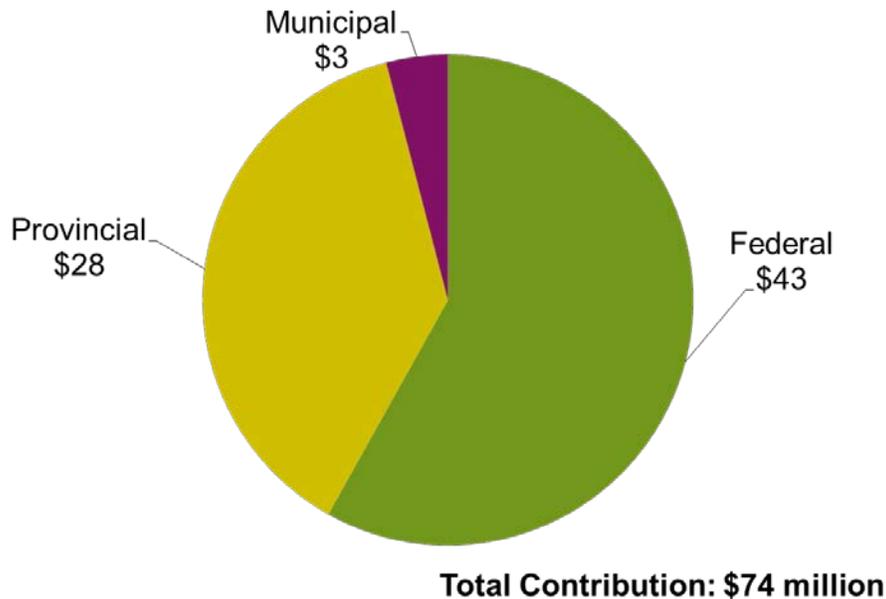
It would be exceedingly complex to broaden the scope of the tax base in this analysis to include taxes generated by indirect and induced employment. The level of detail collected on direct employment by the survey is critical to the analysis while such information is not available for the indirect and induced employment. This being the case, impacts and speculation about the general economy would be complex and averages would not necessarily be precise or accurate. Therefore, the tax analysis in this report is limited to revenues attributable to direct employment only.

5.2 Taxes by Level of Government

On-going economic activity at BBTCA generated tax revenue contributions to all levels of government, estimated to be in the order of \$74 million.²⁰ The federal government is the largest recipient of tax revenue, receiving nearly \$43 million (58% of the total), as seen in **Figure 5-1**. The provincial government received a tax revenue contribution of \$28 million (38% of the total), while the municipal government received nearly \$3 million in tax revenues (4% of the total). This relative mix of tax revenue contribution to the municipal government compared to the provincial and federal governments is standard for airports.

²⁰ Taxation impacts are based on calendar year 2013, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on year-to-date October 2014 passenger traffic volumes.

**Figure 5-1:
Breakdown of Tax and PILT Revenues of Billy Bishop Toronto City Airport (BBTCA)
by Government Level**



5.3 Summary of Tax Contribution

A complete summary of tax contributions by BBTCA passengers and businesses is provided in **Figure 5-2**.

Figure 5-2: Current Tax Contributions of BBTCA Airport Passengers and Businesses – 2013

Taxpayer	Federal (\$Million)	Provincial (\$Million)	Municipal (\$Million)	Total (\$Million)
Passengers	\$10	\$12	\$ -	\$22
Businesses	\$33	\$16	\$3	\$52
Total	\$43	\$28	\$3	\$74

Notes:

- For the purposes of the tax analysis, the HST has been separated out into its GST and PST components to document the federal and provincial portions of tax collected respectively.
- Taxation impacts are based on calendar year 2013, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on forecasted 2014 passenger traffic volumes.
- Figures may not sum due to rounding.

6 Summary of Economic Impact

6.1 On-Going Economic Impacts

On-going operations at BBTCA support a total of over 6,200 person years of employment in the Greater Toronto Area and other nearby regions, when multiplier impacts are present. Of this employment, 1,960 jobs (equal to 1,860 person years) are directly related to the airport. Because jobs related to the airport extend far beyond BBTCA, the total also includes both indirect (approximately 2,930 person years) and induced employment (approximately 1,430 person years).

BBTCA generates direct employment in Toronto and contributes to the economy of the Greater Toronto Area and other nearby regions. The importance of the airport is demonstrated by the direct economic impact of the airports' employment on GDP and output, measured at \$220 million and \$980 million respectively. Including indirect and induced impacts, the total impacts are approximately \$695 million and over \$2 billion, respectively. **Figure 6-1** summarises the economic impacts of on-going operations at BBTCA.

Figure 6-1: On-Going Total Economic Impacts of Billy Bishop Toronto City Airport (BBTCA)

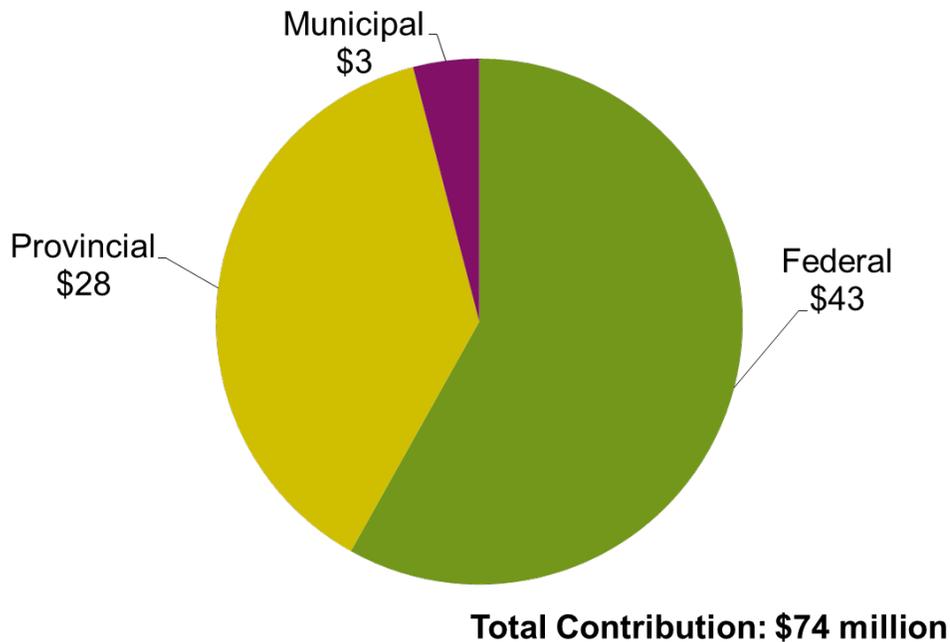
Type of Impact	Employment (Jobs)	Employment (Person Years)	Wages (\$ millions)	GDP (\$ millions)	Economic Output (\$ millions)
Direct	1,960	1,860	100	220	980
Indirect	3,090	2,930	185	315	610
Induced	1,510	1,430	100	160	480
Total Impacts	6,560	6,220	385	695	2,070

Note: Wages, GDP and Economic Output are in 2014 prices

6.2 Annual Tax Contribution

BBTCA is also an important generator of taxation revenues to all levels of government. Total taxes paid on an annual basis, by employers, employees and airport users, are estimated at \$74 million per year.²¹ The majority of taxes collected accrue to the federal and provincial governments at 58% and 38%, respectively. The municipal government also benefits from BBTCA, through the collection of property taxes and Payments-in-Lieu of Taxes amounting to nearly \$3 million (see **Figure 6-2**).²² This relative proportion of tax revenues among the three levels of government is standard for airports.

Figure 6-2: Annual Estimated Tax Revenues of BBTCA



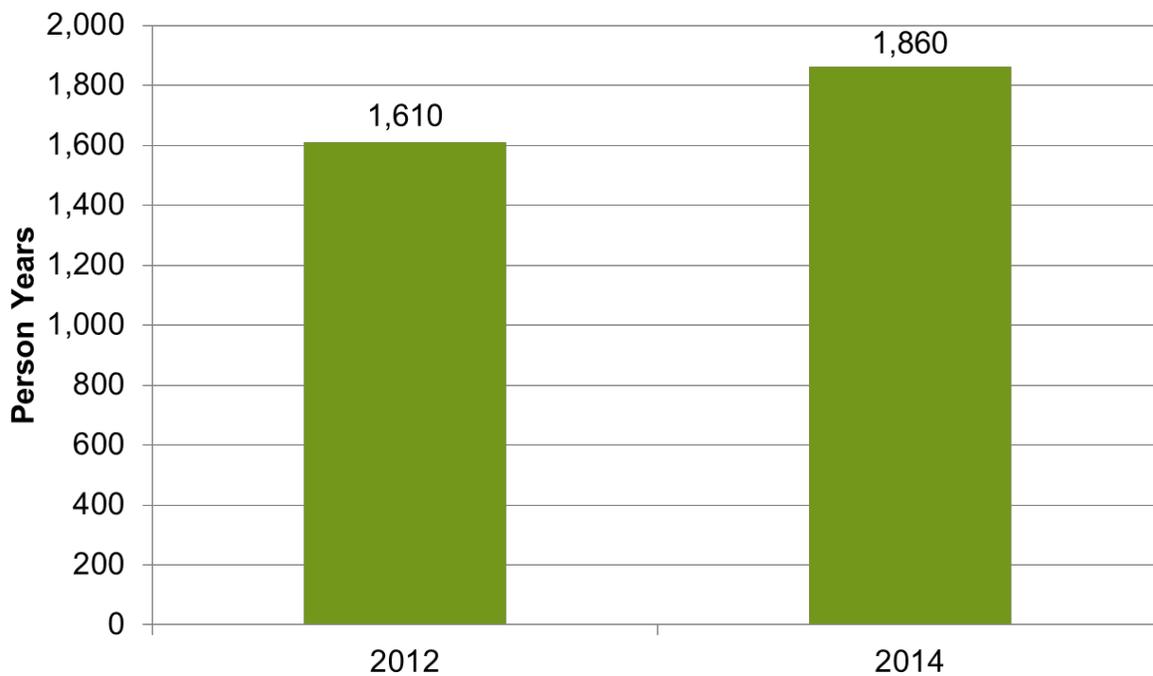
²¹ Taxation impacts are based on calendar year 2013, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on forecasted 2014 passenger traffic volumes.

²² Property tax payments made by employees are not estimated in this analysis; however, it is important to note that these payments also contribute to municipal tax benefits.

6.3 Comparison to Previous Impact Studies

The 2014 economic impact study shows that on-going operations at BBTCA continue to make a considerable contribution to local employment and the provincial economy. **Figure 6-3** provides a comparison of the on-going operations at BBTCA in 2012 and 2014. In comparison to the 2012 Economic Impact Study that InterVISTAS conducted, BBTCA has increased its direct employment base to 1,860 person years.²³ This compares to 1,610 person years in 2012. Wages per person year have also increased from \$46,000 to \$52,800.

Figure 6-3: Direct Person Years at BBTCA, 2012 and 2014



Source: InterVISTAS analysis.

²³ Ground transportation employment for the 2014 study was analysed using a different methodology than the 2012 study, due to improved data sources. This resulted in a higher employment impact in 2014 for this sector than what was reported in the 2012 study.

Appendix A: Employment Survey

Identification of the Survey Population

A total of 36 firms received employment surveys for the BBTCA economic impact study. The different types of employment surveys distributed to tenants located on-site at BBTCA and directly related employers located off-site include: General Off-site Survey, Accommodations Survey and Ground Transport Survey.

Figure A-1: Total Number of Firms Surveyed

Type of Survey	Number of Firms Surveyed	Number of Responding Firms	Response Rate
On-site	20	16	80%
Off-site	16	8	50%
Total	36	24	67%

Questionnaire Design

The basic questionnaire was designed to be effective in obtaining information and, equally importantly, to be as clear and easy to understand as possible for respondent firms. The basic survey was provided to employers at the airport. Three other surveys were developed for offsite employers, hotel employment and ground transportation employment. The basic questionnaire provided to airport tenants contained questions in the following areas:

General Information

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

Total Employment Numbers

- Total employees (as of August 2014)

- Total payroll excluding benefits
- Number of onsite employees
- Number of offsite employees

Part-time and Full-time Employment

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

Employment by Trade

- A selection of job trades was provided to categorise employment

Outsourcing and Contracting Out

- Number of individuals on contract
- Number and names of firms on contract

Property Taxes

- Total property taxes paid (2013)

Business Related to BBTCA

- Proportion of firm's business revenues related to BBTCA (as of August 2014)

Business Revenue Related to Air Cargo

- Proportion of firm's business revenues related to air cargo servicing at BBTCA (as of August 2014)

Conducting the Survey

The survey was mailed out electronically by InterVISTAS Consulting with a cover letter from PortsToronto Chief Executive Officer, Geoffrey Wilson. The letter explained the purpose of the study, the confidentiality of responses and encouraged members of the airport business community to participate.

Following the initial electronic mail-out of the surveys and throughout the following weeks, non-responding firms were contacted by telephone to follow up. Firms were encouraged to return the survey and new copies were offered if the originals were lost. The replacement surveys were emailed once again. Some survey responses were collected via a telephone interview with firms.

Analysis of the Results

The survey results were compiled into an MS Excel spreadsheet.

Inferring Employment

Employment was “inferred” for firms that did not respond to the survey by using a proven and accepted methodology.²⁴ This includes using other sources of employment information, such as past employment surveys or using survey results for firms of similar types. A conservative approach was taken when using other survey or employment information to infer for non-responding firms.

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

Economic Multipliers

Measurement of indirect and induced economic activity is difficult. While it might be possible to conduct a survey of such employers, the survey would need to cover thousands of firms for indirect employment. For induced employment, the entire economy would need to be scrutinised. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured by the use of economic multipliers. Multipliers are derived from economic/ statistical/accounting models of the general economy.²⁵ They come in a variety of forms and differ greatly in definition and application.

²⁴ The methodology employed in this study to infer for non-respondents is also used by the federal government for estimating the national income and product accounts.

²⁵ The multipliers and ratios used for the analysis are based on Statistics Canada economic multipliers for Ontario from the Interprovincial Input-Output model. These multipliers were updated with Consumer Price Indices to account for inflation.

Thus, great care must be exercised in choosing the appropriate set of multipliers to use. In addition, the use of multiplier analysis is limited by a number of factors, these being:

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

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

Study Time Frame

The employment survey was conducted between August to September 2014 and the results reflect employment as of August 2014.

Appendix B: Sample Survey

Toronto
Port
Authority

Administration
Portuaire
de Toronto

Billy Bishop Toronto City Airport
On-site Employment Survey

August 2014

The figures you provide in the following sections are strictly confidential and will be viewed only by InterVISTAS Consulting and reported only in an aggregate form. For the purposes of this study, it is important that the figures you provide are as accurate and current as possible.

When answering the questions below regarding your business, please include all related subsidiary businesses.

Name of Firm: _____

Address of Firm: _____

City, Province: _____ Postal Code: _____

Contact Person: _____ Phone number: _____

Email: _____

Q1. Location of Firm

Please indicate the general location of your firm:

- Billy Bishop Toronto City Airport (YTZ)
- Other, please specify: _____

Q2a. Business Related to Billy Bishop Toronto City Airport

 Please estimate the amount of your business (revenue) that is related to Billy Bishop Toronto City Airport.

YTZ Related Business: <small>(as of August 2014)</small>	%
--	---

Q2b. Cargo Related Business

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

Please estimate the proportion of your business (revenue) that can be attributed to air cargo related activities?

Air Cargo Related Business: <small>(as of August 2014)</small>	%
--	---

Q3. Type of Business (check one)

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

Air Carriers

- 1. Scheduled Canadian Carrier
- 2. Scheduled Non-Canadian Carrier
- 3. Charter Carrier
- 4. Helicopter
- 5. Air Taxi
- 6. Cargo Carrier
- 7. Courier
- 8. Other Type of Air Carrier: _____

Other Business Types

- 9. Facility Operator
- 10. Freight Forwarder, Cargo Agent, etc.
- 11. Warehousing
- 12. Customs Broker
- 13. Aircraft Maintenance
- 14. Aircraft Ground Handler
- 15. Fuelling Company
- 16. Fixed Base Operator
- 17. Aircraft Parts Supplier
- 18. Aviation Related Manufacturing
- 19. Aviation Related Training
- 20. Caterer
- 21. Security Firm
- 22. Hotel
- 23. Taxi, Bus
- 24. Car Rental
- 25. Airport Retail Outlet, Restaurant, etc.
- 26. Government Agency/Department
- 27. Air Traffic Control
- 28. Other: _____

Q4. Total Employment

Please state the total number of employees that you have at present. **This figure should include all full-time, part-time and seasonal work but should not include employment for work done on contract.**

Total Number of Employees: (as of August 2014)	
Total Annual Payroll: (Excluding employee benefits, 2013 figures)	

OR, Provide an estimate of the average annual salary per employee \$ _____

- Less than \$20,000
- Between \$20,000 and \$40,000
- Between \$40,000 and \$60,000
- Between \$60,000 and \$80,000
- Between \$80,000 and \$100,000
- More than \$100,000

Q5. On-site versus Off-site Employees

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

Number or % of Employees On-Site:	
Number or % of Employees Off-Site:	

Q6. Part-Time and Full-Time Employees

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

Number of Full-Time <u>Permanent</u> Employees:	
Number of Part-Time <u>Permanent</u> Employees:	
Total <u>Permanent</u> Employees:	

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

# of Weekly Hours:	
---------------------------	--

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

B. Seasonal Employees: A seasonal employee is one who is hired for work during peak or specific time periods only. In reference to the number of total employees in Q4, please indicate how many are seasonal full-time and part-time employees (2014)?

Number of Full-Time <u>Seasonal</u> Employees:	
Number of Part-Time <u>Seasonal</u> Employees:	
Total <u>Seasonal</u> Employees:	

For seasonal workers, on average, how many **weeks** will they work this year (2014)?

Number of Weeks Per Year:	
----------------------------------	--

For part-time seasonal workers, on average, how many **hours per week** will they work this year (2014)?

Number of Weekly Hours:	
--------------------------------	--

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

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

Q7. Employment by Trade

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

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

Q8. Outsourcing and Contracting Out

Since we do not want to exclude any employment from the airport, we would like you to briefly comment on whether your firm contracts out any important services.

A. Individuals on Contract: If you pay some individuals through a contract, as opposed to through payroll, please indicate the number of such employees.

Number of <u>Contract</u> Employees:	
---	--

Of these employees on contract, how many **weeks**, on average, will they work this year? And, on average, how many **hours per week** do they work?

Number of Weeks Per Year:	
Number of Weekly Hours:	

B. Firms on Contract: Do you contract any work out to other **firms**? For example, janitorial services, ground handling, etc.

- No.** (continue to next question)
- Yes. If yes,** please complete the following table indicating the functions you contract out to other firms and an estimate of the annual hours on contract. Also include the names of the firms you use so we can ensure that we do not double count any work performed by other firms that we are surveying as a part of this study.

Function	Name of Firm	Estimated Number of Hours to be Performed by Firm in 2014
<i>Example: Janitorial</i>	<i>Spic and Span Cleaners</i>	<i>100 a year (2 hours per week)</i>

Q9. Property Taxes Paid in 2013

Please indicate the amount of property taxes paid by your firm in 2013.

Total Property Taxes Paid (2013)	
---	--

Thank you for your assistance in completing this survey.

Please return the completed survey electronically by email / fax to:

Attention: Jody Kositsky
Email: jody.kositsky@intervistas.com
Fax: 604-717-1818

If you have any questions, please call Jody Kositsky at 1-877-717-6246 (ext. 1862).

Appendix C: Calculation of Person Hours per Year

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

Table C-1: Person Hours per Year

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

Workdays vary anywhere from 6.5 to 8 hours; however, in order to be conservative, an 8 hour workday was assumed.²⁶ Similarly, numbers of vacation and sick leave days may also vary.

²⁶ Essentially, we are using a measure of paid hours per year. Using a measure of productive hours per year with 6.5 hour workdays (8 hours less 1 hour for lunch less two 15 minute work breaks) would give 1,489 hours per person year. Using this lower figure would result in inferring a greater number of person years from seasonal and part-time jobs. Using the 1,832 figure, we infer a lower number of person years.

Appendix D: Summary of Total Jobs and Person Years

The table below includes a summary of the total surveyed employment, total inferred employment for non-respondents and total contract employment. Employment is presented in both jobs and person years.

Table D-1: Total Jobs and Person Years

Employment Source	Jobs	Person Years
Surveyed employment ¹	1,620	1,535
Inferred employment for non-respondents ²	290	280
Contract employment ³	50	45
Total	1,960	1,860
¹ Appendix A ² Appendix E ³ Appendix F		

Appendix E: Inferred Employment

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

InterVISTAS' approach was to utilise information from responding firms for each type of business and use it, along with publicly available information on individual non-responding firms, to make inferences. This approach is generally deemed to be the best approach, and indeed is often used for developing the national income and products account (i.e. partial survey with inference for non-surveyed or non-responding firms based on responses of surveys received). The approach was conservative in that, unlike the national income and products account inference, we assumed that the non-responding firms were smaller than respondents.²⁷

The employment data in this report was constructed from a combination of two sources:

1. **Employment reported by employers on surveys.**
2. **Employment inferred for employers who did not provide a survey response.** Inferred employment was based on employment information from firms in each business type that did respond to the survey. The mean employment of respondents in each business type was calculated, excluding outliers, and then adjusted downwards. For example, especially large firms were excluded from the "mean without outliers" to obtain conservative results. This "adjusted mean" employment for each business type was then applied to the non-respondent firms. Where firms had responded to past surveys, their prior responses were also considered in the calculation. Inferred accommodations were based on applying a ratio of the weighted average employees to rooms to the number of rooms at non-responding accommodations.

²⁷ As with the national income and products account approach, we recognise and discard outliers in the survey respondents when making inferences for non-respondents.

Appendix F: Contract Employment

Some firms contract out services which they do not have expertise in providing, or when there are cost advantages to doing so. For example, many airport firms contract out janitorial, elevator and maintenance services. The employment survey asked firms to identify whether they contracted out some of their work, and to estimate the number of annual hours involved.

Contract work was separated into two distinct categories in the employment survey: i) individual "employees" paid through a contract, rather than via payroll, and, ii) contracting out services to other firms.

The employment results for individuals on contract were derived by counting the number of individual positions for the number of jobs and dividing the total hours of employment by 1,832 to estimate person years. The employment results for firms on contract were derived by dividing the total hours of employment by 1,832 to estimate person years.

There were approximately 50 jobs equivalent to 48 person years of contract employment supplied by firms doing work for BBTCA firms and contract employees working for firms at BBTCA. These included janitorial and maintenance, among others.

Appendix G: Methodology – Economic Multipliers

Measurement of indirect and induced economic activity is difficult. While it might be possible to conduct a survey of such employers, the survey would need to cover thousands of firms for indirect employment. For induced employment, the entire provincial economy would need to be scrutinised. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured by the use of economic multipliers. Multipliers are derived from economic/statistical/accounting models of the general economy. They come in a variety of forms and differ greatly in definition and application. Thus, great care has been exercised in choosing the appropriate set of multipliers to use to estimate indirect and induced employment in this study.²⁸

²⁸ The multipliers used for the analysis are based on Statistics Canada economic multipliers for Ontario from the 2008 Interprovincial Input-Output model. These multipliers were updated with Consumer Price Indices to account for inflation.

Appendix H: Tax Revenues Attributable to Airport Employers

Introduction

This appendix describes the employment and other assumptions on which tax revenues calculations are based. As well, the approaches used to estimate employer and employee contributions to local, provincial and federal governments are presented. All estimates are for the 2013 calendar year, unless otherwise stated.

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

Employment at BBTCA

The majority of tax calculations in this report depend on direct employment and total wages. The total direct employment, in person years, used for these calculations is 1,860 person years. The total payroll is estimated at \$100 million.

Personal Income Tax (Federal and Provincial)

Tax Base and Rates

Under the Income Tax Act federal income tax is paid on taxable income at a rate that increases with taxable income.

Provincial income tax was formerly calculated as a percentage of federal tax, but most provincial governments have begun collecting taxes on a sliding scale.

Estimation Method and Results

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

Each employee is assumed to pay tax as a single tax filer. Estimated income tax payable is \$11.7 million in federal tax and about \$4.6 million in provincial tax.

The average tax rates used are derived from the more detailed calculations of taxes payable shown in **Figure H-1**. In those calculations, assumptions have been made about income from non-employment sources, tax deductions from income (e.g. RPP and RRSP contributions), and tax credits applied against tax otherwise payable (e.g. CPP, EI and charitable contributions). Average credits are calculated from Revenue Canada, *General Income Tax Forms, 2013*.

Figure H-1: Ontario Single Tax Filer Income Tax Calculation – 2013

Ontario Single Tax Filer Income Tax Calculation																
Income																
Employment	20,000	25,000	30,000	35,000	40,000	45,000	50,000	55,000	60,000	70,000	80,000	90,000	100,000	150,000		
TOTAL	20,000	25,000	30,000	35,000	40,000	45,000	50,000	55,000	60,000	70,000	80,000	90,000	100,000	150,000		
Deductions																
RPP	568	423	470	548	612	671	695	739	805	894	921	924	904	1,348		
RRSP	38	42	75	134	255	435	636	846	1,044	1,311	1,889	2,694	3,873	2,838		
Carrying Charges	52	40	55	70	99	135	174	218	258	309	405	487	388	705		
Union	88	72	84	96	108	125	151	177	191	229	294	337	388	705		
TOTAL	746	577	684	847	1,075	1,366	1,656	1,979	2,298	2,743	3,509	4,443	5,554	5,595		
Taxable Income	19,254	24,423	29,316	34,153	38,925	43,634	48,344	53,021	57,702	67,257	76,491	85,557	94,446	144,405		
Credits																
Basic Federal	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038	11,038
Basic Provincial	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574	9,574
CPP	563	487	628	784	981	1,177	1,413	1,559	1,598	1,622	1,728	1,816	1,883	1,800		
EI	255	205	256	311	381	451	515	547	562	566	601	629	652	601		
Charity	26	32	46	61	72	80	92	102	114	135	156	181	205	309		
Fed. Total	11,883	11,761	11,969	12,194	12,472	12,746	13,058	13,246	13,312	13,361	13,523	13,664	13,779	13,747		
Prov. Total	10,419	10,297	10,505	10,730	11,008	11,282	11,594	11,782	11,848	11,897	12,059	12,200	12,315	12,283		
Federal Tax Credit Rate	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
Provincial Tax Credit Rate	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Federal Credits	1,782	1,764	1,795	1,829	1,871	1,912	1,959	1,987	1,997	2,004	2,028	2,050	2,067	2,062		
Provincial Credits	526	520	530	542	556	570	585	595	598	601	609	616	622	620		
Tax Payable																
Federal - Bracket 1	2,888	3,663	4,397	5,123	5,839	6,534	6,534	6,534	6,534	6,534	6,534	6,534	6,534	6,534	6,534	6,534
Federal - Bracket 2	0	0	0	0	0	16	1,052	2,081	3,111	5,213	7,245	9,239	19,167	19,167		
Federal - Bracket 3	0	0	0	0	0	0	0	0	0	0	0	0	1,904	35,114		
Federal - Bracket 4	0	0	0	0	0	0	0	0	0	0	0	0	0	2,712		
Federal Total	2,888	3,663	4,397	5,123	5,839	6,550	7,586	8,615	9,645	11,747	13,779	15,773	27,605	60,815		
Basic Federal		1,106	1,899	2,602	3,294	3,968	4,638	5,628	6,628	7,648	9,743	11,750	13,724	25,538	58,289	
Ontario - Bracket 1	972	1,233	1,480	1,725	1,966	2,006	2,006	2,006	2,006	2,006	2,006	2,006	2,006	2,006	2,006	2,006
Ontario - Bracket 2	0	0	0	0	0	358	789	1,217	1,645	2,519	3,364	3,635	3,635	3,635		
Ontario - Bracket 3	0	0	0	0	0	0	0	0	0	0	0	682	1,674	7,249		
Ontario - Bracket 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ontario Total	972	1,233	1,480	1,725	1,966	2,364	2,795	3,223	3,651	4,525	5,370	6,323	7,315	12,890		
Basic Provincial	446	713	950	1,183	1,410	1,794	2,209	2,628	3,053	3,925	4,761	5,707	6,693	32,675		
TOTAL TAX PAYABLE	1,552	2,613	3,552	4,477	5,378	6,432	7,837	9,256	10,701	13,668	16,512	19,430	32,231	90,965		
Average Rate of Tax																
Federal	8.1%	10.7%	12.1%	13.1%	13.8%	14.7%	16.2%	17.5%	18.5%	20.3%	21.6%	22.7%	34.1%	27.7%		
Provincial	2.3%	2.9%	3.2%	3.5%	3.6%	4.1%	4.6%	5.0%	5.3%	5.8%	6.2%	6.7%	7.1%	9.9%		

Corporate Income Tax (Federal and Provincial)

All corporations are liable to pay federal income tax under the Income Tax Act. The tax rate varies by type and size of company and by province. Provincial governments also levy a corporation income tax on any company having a permanent establishment in that province.

Estimation Method and Results

1. To calculate tax liability precisely is very difficult. It requires knowledge of the total tax base, and the proportion of the tax base attributable to the provinces. Therefore, an approximate method has been used.
2. In Ontario, the federal corporate income tax collected per employee was \$1,834 and the provincial corporate income tax collected per employee was \$1,514 in 2013.
3. Assuming all companies pay tax at the average rate per employee calculated above, the 2013 corporation income tax liability of the airports of BBTCA employment sector is estimated to be \$3.2 million toward federal revenues and \$2.6 million toward provincial revenues. The estimated total corporate income tax revenue is about \$5.8 million as shown in **Figure H-2**.

Figure H-2: Estimated Corporate Income Tax Paid by Firms within BBTCA

Government	Revenue (\$Million)
Federal	\$3.2
Provincial	\$2.6
Total	\$5.8

Note: Figures may not sum due to rounding.

Employment Insurance Premiums

Tax Base and Rates

In 2013, employees in Canada paid employment insurance (EI) premiums equal to 1.88% of earnings up to a maximum of \$914 per year. (Maximum insurable earnings are \$48,600). Employers paid EI premiums equal to 1.4 times employee premiums.

Estimation Method and Results

The employee premium rate is applied to total payroll costs for employees earning less than \$48,600 per year. The maximum contribution was used for employees earning more than \$48,600 per year. Estimated employee payments were about \$1.6 million in 2013.

The employer rate is applied to the employee payments. Estimated employer payments were about \$2.2 million in 2013.

Canada Pension Plan Contributions

Tax Base and Rates

In 2013, employee contributions for the Canada Pension Plan (CPP) were 4.95% of pensionable earnings. Pensionable earnings are actual earnings less \$3,500, to a maximum of \$52,500. The maximum annual employee contribution is \$2,425.50. The employer contribution is the same as the employee contribution.

Estimation Method and Results

The employee contribution rate is applied to average payroll for employees who are earning less than \$52,500 a year. The maximum contribution was used for employment earning more than the maximum pensionable earnings.

Estimated employer and employee contributions are about \$4.2 million each, for a total of \$8.4 million.

Workplace Safety and Insurance Board Contributions

Tax Base and Rates

Employers in each province are required to make contributions to the Workplace Safety and Insurance Board (WSIB) to help offset the cost of on-the-job injuries. Employers are classified into industry groups. The contribution rate for each group is based on the injury costs associated with all companies in that group.²⁹ The group contribution rate varies widely among industries and provinces. Some major companies are not included in the general “rateable” method of contribution but simply pay the actual cost of their claims plus an allowance for WSIB administration costs. As it is not generally known which firms contribute in this manner, nor the value of their claims, an estimate based on reported payroll has been made for all firms.

Conceptual Issues

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

Estimation Method and Results

The contribution rates for each employment classification at the airport have been applied to the total payroll for that group. BBTCA employees paid an estimated \$2.3 million to the Workplace Safety and Insurance Board in 2013.

²⁹ Subject to Experience Rating Adjustment for individual companies.

Health Insurance Premiums

Tax Base and Rates

The Ontario Health Premium (OHP) is based on taxable income for a taxation year.

Conceptual Issues

Premiums must be paid by any person registered with the Plan, whether they are employed or not.³⁰ Therefore, premiums are not directly related to employment. Nevertheless, many employers pay premiums on behalf of their employees. Therefore, premiums are included as a tax contribution.

Estimation Method and Results

Many employees may be covered by premiums paid by or on behalf of a spouse. Therefore, an employee may not need the coverage offered by an employer. For any group of employees it is difficult to know how many have coverage through a spouse. Therefore, we have assumed that all employees are covered as a result of employment. The estimated monthly premium amount used in the analysis (\$50) is based on the average income of total employment (\$52,800).

Total employment of 1,860 person years at \$600 per employed person annually (\$50 x 12 months) equals a total contribution of \$1.1 million.

Aviation Fuel Tax

The federal and provincial governments levy taxes on jet fuel. The aviation fuel tax rates are shown in **Table H-3**.

Table H-3: Ontario Fuel Tax Rates, 2013

Federal	Ontario
\$/Litre	
\$0.04	\$0.037

Estimation Method and Results

The amount of aviation fuel sold at BBTCA in 2013 was 45.1 million litres. The total aviation fuel tax revenues at BBTCA amount to approximately \$2.9 million. Of this total, close to \$1.2 million went to the Federal government and the government of Ontario collected nearly \$1.7 million.

A 13% HST (which includes the 5% Goods and Services Tax (GST) and the 8% Provincial Sales Tax (PST) component) was also collected from aviation fuel sold at the airport. The total HST revenues from fuel sales at BBTCA amount to approximately \$4.5 million.

³⁰ Low income persons may qualify for premium assistance.

Property Taxes Collected to Government

Governments levy property taxes to help them finance local services. Property taxes paid by PortsToronto amounted to \$71,700 in 2013. BBTCA tenants also paid municipal taxes amounting to \$1.41 million in 2013.³¹

Gross Revenue Charge and Payments-in-Lieu of Taxes

PortsToronto also pays a Gross Revenue Charge to the federal government and Payments-in-Lieu of Taxes to the municipal government. The proportion related to the airport that was paid and accrued by PortsToronto in 2013 is as follows:

- Gross Revenue Charge: \$2.0 million
- Payments-in-Lieu of Taxes: \$1.7 million

³¹ Property tax payments made by employees are not estimated in this analysis; however, it is important to note that these payments also contribute to municipal tax benefits.

Appendix I: Tax Revenues Attributable to Airport Users

BBTCA Passengers, Forecasted 2014

Based on forecasted 2014 traffic, approximately 2.4 million passengers will enplane and/or deplane at BBTCA, including connecting passengers (approximately 415,000). **Table I-1** shows the passenger movements used in this study including breakdown into sectors and percentage of connecting passengers at BBTCA.

Table I-1: Passenger Movements, Forecasted 2014

Sector	Enplaned Plus Deplaned 2014
Domestic	1,600,000
Transborder	780,000
Connecting	17%
<i>Total</i>	<i>2,380,000</i>
Daily Average	6,500

Notes: Based on passenger traffic information provided by PortsToronto.

NAV CANADA Charges

Prior to November 1, 1998, the Canadian government collected the Air Transportation Tax (ATT) to fund aviation programs, including air navigation services. The ATT was levied on all tickets purchased in Canada as well as those purchased internationally for trips that included an enplanement in Canada. ATT rates were adjusted frequently, reaching a high in May 1995 of 7% + \$6 (to a maximum of \$55) for domestic and transborder flights, and a flat rate of \$55 for international flights.

When control of air navigation services was privatised and passed to NAV CANADA on November 1, 1996, the ATT was gradually replaced by NAV CANADA charges. These fees, collected under authority of the Civil Air Services Commercialisation Act, are not taxes on ticket sales; they are service charges billed to aircraft operators. In order to recover these costs, airlines usually pass these charges on to passengers, though NAV CANADA does not dictate how this is done. Most carriers apply a flat rate NAV CANADA surcharge to tickets they sell.

NAV CANADA fees consist of two parts: en route charges and terminal charges. En route charges are based on the maximum permissible takeoff weight of the aircraft (metric tonnes) and the distance being flown in Canadian-controlled airspace. Terminal charges are dependent only on aircraft weight.

Conceptual Issues

Because the ATT is no longer collected and the fees that NAV CANADA now charges are service fees, rather than taxes, no taxes for air navigation services will be included in total taxes paid.

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

Tax Base and Rates

The 13% Harmonized Sales Tax (HST) applies to the base fare of all domestic tickets purchased in Canada, while the 5% Goods and Services Tax (GST) applies to the base fare of all transborder tickets purchased.

PortsToronto charges all passengers originating their journey at BBTCA an Airport Improvement Fee (AIF) that is collected for the sole purpose of funding capital improvements at the airport. The 13% HST (consisting of 5% GST and 8% PST) is levied on the fee.

Conceptual Issues

Taxes levied on the air fare should be shared among airports in Canada associated with the journey. The estimation method builds in a sharing assumption (50% BBTCA and 50% other Canadian airports).

Estimation Method and Results

HST is levied on all domestic air fares; however, due to the sharing assumption stated above, only 50% of the estimated taxes per departing passenger are attributable to BBTCA. Total tax on airfares is estimated to be nearly \$18 million.

PortsToronto collected nearly \$18 million through the AIF in 2013. Tax revenue on this amount is \$2.3 million, with roughly \$900 thousand and over \$1.4 million collected by the Federal government and the government of Ontario, respectively.

HST (GST and PST) on Air Traveller Security Charge

The Canadian Government enacted the Air Traveller Security Charge (ATSC) on April 1, 2002 to help fund security improvements at airports across Canada, as a result of the terrorist attacks on September 11, 2001. As of April 1, 2010, these rates were increased. There is a flat rate fee of \$7.12 for each chargeable enplanement for domestic travel, \$12.10 for transborder travel, and \$25.91 for international travel.

Tax Base and Rates

The HST (GST and PST) applies to the domestic ATSC, while the GST applies to the transborder ATSC.

Estimation Method

The volume of origin/destination traffic at BBTCA was determined. It was assumed that 100% and 50% was origin traffic at BBTCA for domestic and transborder, respectively. Each origin passenger pays the ATSC. A total of \$0.7 million in taxes (\$0.4 million GST and \$0.3 million PST) was collected on the ATSC.

Tax on Airport Operating Fees

The HST rate is applied to airport operating fees.

Estimation Method and Results

Based on the information provided by PortsToronto, net revenue from airport operating fees was over \$16 million in 2013. Total tax collected is estimated at nearly \$2.1 million, including \$0.8 million GST and \$1.3 million PST.

Tax on Aircraft Landing Fees

The HST rate is applied to aircraft landing fees.

Estimation Method and Results

Based on the information provided by PortsToronto, net revenue from aircraft landing fees was nearly \$0.2 million in 2013. Total tax collected is estimated at \$30,000, including \$12,000 GST and \$18,000 PST.

Tax on Parking Fees

The HST rate applies to parking fees at the airport.

Estimation Method and Results

Based on the information provided by PortsToronto parking revenue was close to \$0.6 million in 2013. Tax on these expenditures is estimated at over \$80,000.

Tax on Ferry Vehicle Fees

The HST rate applies to the fees charged to vehicles using the ferry to access the airport.

Estimation Method and Results

Based on the information provided by PortsToronto ferry vehicle fee revenues was approximately \$0.6 million in 2013. Tax on these expenditures is estimated at close to \$80,000.

Tax on Accommodation Costs

Tax Base and Rates

The Harmonized Sales Tax (HST) rate of 13% (includes 5% Goods and Services Tax (GST) and 8% Provincial Sales Tax (PST)) applies to accommodation costs by non-local visitors to Toronto staying in hotels.

The Tourism Performance Bulletin published by the Ontario Ministry of Tourism, Culture and Sport indicates that the average daily room rate in Ontario in 2013 was \$126.50.³²

Estimation Method and Results

In order to estimate the total accommodation costs of visitors to Toronto the average daily room rate was applied to the estimated connecting passenger nights determined from the hotel survey conducted. The total accommodations expenditure amounted to more than \$3.7 million.

HST based on accommodation costs of \$3.7 million by connecting passengers is approximately \$0.5 million.

³² Average daily rate is based on October 2013.

Appendix J: Glossary of Terms

Air Traveller Security Charge (ATSC): A fee collected by the Federal Government from air travellers to help fund security improvements at Canadian airports. The fee varies by region of travel and is charged to the passenger per enplanement.

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

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

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

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

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

Full Time Equivalent (FTE): (also Person Year) One full time equivalent (FTE) year of employment is equivalent to the number of hours that an individual would work on a full time basis for one year. In this study we have calculated one full time equivalent year to be equivalent to 1,832 hours. Full time equivalent years are useful because part time and seasonal workers do not account for one full time job.³³

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

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

³³ *The Dictionary of Modern Economics*, David W. Pearce, General Editor, The MIT Press, Cambridge Mass., 1984

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

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

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

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

Airport Improvement Fee (AIF): A fee collected by PortsToronto from passengers to help with funding capital improvements at the airport. In some regions of Canada, this is also referred to as the Passenger Facility Charge (PFC).

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

Tenant: A firm which pays a lease to a leasing company or to PortsToronto directly.

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



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