

FINAL REPORT:  
**Billy Bishop Toronto City Airport (YTZ)  
Economic Impact Study**



strategic  
transportation  
& tourism  
solutions



Prepared for  
**Toronto Port Authority**

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## Executive Summary

Billy Bishop Toronto City Airport (YTZ) plays a significant role in providing critical regional and continental transportation linkages to support and grow Toronto's economy. The airport's rapid growth and support of high-value business and leisure passengers has been unique in North America in recent years. Billy Bishop Toronto City Airport has become an essential facilitator in the growth of trade and tourism for Toronto.

The results of this study are based on a review of March 2012 operations. YTZ generates 1,700 direct jobs in Toronto. Employees at YTZ and related firms earn approximately \$74 million in wages, yielding an average of \$46,000 per person per year of employment<sup>1</sup>, which is relatively high in comparison to the average wage of jobs in the air transportation industry in other Canadian provinces.<sup>2</sup> Direct employment generates \$200 million in direct gross domestic product and \$900 million in direct economic output in the Toronto economy annually.

In addition, 2,500 person years of employment are indirectly generated in industries in the Greater Toronto Area and surrounding regions that supply the businesses of YTZ. Labour income associated with the total indirect employment is estimated at \$140 million per annum. When total impacts are considered from all outputs (*direct, indirect and induced*), the airport generates total economic impacts of \$640 million in total annual GDP, and supports nearly \$1.9 billion in total annual economic output economy-wide in the Toronto and surrounding area.<sup>3</sup>

**Billy Bishop Toronto City Airport (YTZ) is a major economic engine for the Greater Toronto Area generating *total* impacts of:\***

- **\$1.9 billion in economic output;**
- **Approximately 5,700 jobs representing 5,400 person years of employment (1,700 of these jobs are *directly* associated with YTZ);**
- **\$640 million in *total* gross domestic product (GDP);**
- **\$290 million in wages; and**
- **Overall tax revenue and Payments-in-Lieu of Taxes of approximately \$57 million annually.**

*\*Results shown are total impacts, which include indirect and induced multiplier impacts.*

<sup>1</sup> 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).

<sup>2</sup> Based on the Government of Canada's Working in Canada Wage Report for jobs in the air transportation industry ([http://www.workingincanada.gc.ca/wage-outlook\\_search-eng.do?reportOption=wage](http://www.workingincanada.gc.ca/wage-outlook_search-eng.do?reportOption=wage)).

<sup>3</sup> The multipliers used for the analysis of indirect and induced impacts are based on Statistics Canada economic multipliers for Ontario from the 2008 Interprovincial Input-Output model, the most recent available. These multipliers were updated with Consumer Price Indices to account for inflation.

The air services at YTZ 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 YTZ 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 the Canadian Tourism Commission (CTC) to YTZ transborder passenger traffic. By applying the average U.S. visitor spending data, this study found that the non-local visitor spending impacts of the air services at YTZ amounts to approximately \$124 million a year.<sup>4</sup>

By the end of 2012, passenger traffic at YTZ is forecasted to rise above two million passengers. As a result, the economic impact of operations at the airport is likewise estimated to increase to approximately 1,750 direct person years of employment in Toronto, earning \$80 million in wages.<sup>5</sup> The direct employment associated with the forecasted passenger traffic is estimated to contribute approximately \$220 million in direct GDP and \$980 million in direct economic output.

Seventy-four per cent of the businesses and organisations contacted responded to the survey, representing nearly 97% of total person years of employment covered by the survey. This is a high response rate to a survey of this type.<sup>6</sup>

The City of Toronto and the province of Ontario have important economic sectors with international competitiveness and strength, generating synergies and stimulating economic growth. Billy Bishop Toronto City Airport has played and will continue to play a significant role in providing the necessary transportation access and linkages to other major business and financial sectors. This will contribute to the growth of overall economy for the city, the province and the country as a whole.

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<sup>4</sup> It is assumed that 50% of forecasted 2012 enplaned non-connecting transborder passengers are non-local visitors (146,775 passengers). U.S. visitor characteristics were obtained from the Canadian Tourism Commission's Travel Characteristics Q4 2010 report, which contains the most recent statistics on U.S. visitors to Canada 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 2010 was used in the estimate and adjusted to 2012 dollar values to account for inflation (equivalent to \$842.00 in visitor spending per trip).

<sup>5</sup> Academic studies have shown that the aviation industry benefits from economies of scale, wherein a 1% increase in passenger traffic does not necessarily result in a 1% increase in employment at the airport. (For example: Gillen, Oum and Tretheway, "Airline Cost Structure and Policy Implications: A Multiproduct Approach for Canadian Airlines," *Journal of Transport Economics and Policy*, January 1990, pp.9-34.) Taking this consideration into account, the economic impacts associated with the 2012 forecasted passenger traffic was estimated based on knowledge gained from previous economic impact studies conducted by InterVISTAS and on information collected on major employers for the current economic impact study at YTZ.

<sup>6</sup> The average response rate to a survey of this nature is in the range of 60%-70%.

## On-Going Economic Impacts

### **Direct Economic Impacts**

Direct economic impact measures the employment and economic impact directly associated with the airport (including airlines, ground handling, airport operations, air traffic control, etc.).<sup>7</sup>

This study found that the direct impacts of YTZ in 2012 include<sup>8</sup>:

- Approximately 1,700 *direct* jobs associated with YTZ, representing over 1,600 *direct* person years of employment (FTEs).<sup>9</sup>
- The annual *direct* economic impact of this employment on the economy of the Greater Toronto Area (GTA) is:
  - \$200 million in gross domestic product (GDP);
  - \$900 million in economic output; and
  - \$74 million in wages.

### **Total Economic Impacts**

The economic impact of Billy Bishop Toronto City Airport extends beyond the airport, as other sectors of the economy are dependent on the businesses of employers directly related to the airport. Indirect and induced impacts are multiplier impacts in the wider economy stimulated by the airport's activities (e.g., other businesses that supply goods and services to the airport and spending by airport employees, respectively).<sup>10</sup> Total impacts are calculated by adding together the direct, indirect and induced impacts.

Including multiplier impacts, this study finds that on-going operations at YTZ generate *total* impacts of:

- Approximately 5,700 jobs, representing nearly 5,400 person years of employment.<sup>11</sup>
- The *total* economic impact of this employment on the economy of the GTA and nearby regions is:
  - \$640 million in gross domestic product (GDP);
  - \$1.9 billion in economic output; and
  - \$290 million in wages.

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<sup>7</sup> Emphasis is placed on the direct economic impacts as these are based on data from the employer survey and are clearly identifiable.

<sup>8</sup> Employment, wage, GDP and economic output impacts are based on March 2012 operations.

<sup>9</sup> One person year is equivalent to 1,832 hours of work. Person years are the same as full time equivalents (FTEs).

<sup>10</sup> Statistics Canada economic multipliers for the Province of Ontario from the 2008 Interprovincial Input-Output model, the most recent available, were used to measure the indirect and induced economic impacts. These multipliers were updated with Consumer Price Indices to account for inflation.

<sup>11</sup> One person year is equivalent to 1,832 hours of work. Person years are the same as full time equivalents (FTEs).

## Annual Tax Contributions

Billy Bishop Toronto City Airport is also a significant generator of taxation revenues to all levels of government. The overall tax revenue and Payments-in-Lieu of Taxes (PILT) contribution generated by on-going economic activity at the airport is approximately \$57 million annually.<sup>12</sup> The federal government received nearly \$35 million (61% of the total), while the provincial government received over \$19 million in tax revenue (34% of total tax revenue). Nearly \$3 million in taxes (5% of the total) is estimated to be collected by the municipal government, PILT and property tax payments by the airport and its tenants, as shown in **Figure ES-1**.<sup>13</sup> This relative proportion of tax revenues among the three levels of government is standard for airports.

**Figure ES-1: Annual Tax Contributions of Billy Bishop Toronto City Airport (YTZ) by Taxpayer (\$ Millions)**

<b>Taxpayer</b>	<b>Federal</b>	<b>Provincial</b>	<b>Municipal</b>	<b>Total</b>
Passengers	11.0	10.1		<b>21.1</b>
Employers or Employees	22.2	9.5	1.4	<b>33.1</b>
Toronto Port Authority	1.5		1.3	<b>2.8</b>
<b>Total</b>	<b>34.7</b>	<b>19.6</b>	<b>2.7</b>	<b>57.0</b>

Notes:

- Totals may not add, due to rounding.
- Taxation impacts are based on calendar year 2011, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on year-to-date September 2012 passenger traffic volumes.

<sup>12</sup> Taxation impacts are based on calendar year 2011, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on forecasted 2012 passenger traffic volumes.

<sup>13</sup> 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.

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# 1. Introduction

## 1.1 Billy Bishop Toronto City Airport (YTZ)

With its proximity to the city's downtown core, the airport provides links to business centres and destinations across North America. Through these air services, the airport has become a critical facilitator of the growth of trade and tourism between Toronto and North American centres.

Porter Airlines has served the airport since 2006, and offers service to 18 cities in Canada and the United States, including Ottawa, Montréal, New York, Boston, Chicago and Washington, D.C. In May 2011, Air Canada began service at the airport with flights to Montréal, operated by Toronto-based Sky Regional Airlines. YTZ also supports air charter operations, general aviation<sup>14</sup>, helicopter operations, flight training, air ambulance services, maintenance and repair services, airborne sensing and sightseeing tours.

## 1.2 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 YTZ.

## 1.3 What Is Economic Impact?

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

One measure of economic impact, employment, can be broken down into the following categories:

**Direct employment** is employment that can be attributed to the operation and management of YTZ, including firms 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.

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<sup>14</sup> The economic contribution of general aviation activity represents a relatively small overall economic contribution to the airport.

**Indirect employment** is employment in down-stream industries that results from the presence of YTZ. For example, suppliers of food to fixed based operators at YTZ would be considered indirect employment. Indirect employment is generated in industries that supply or provide services to the airport employers.

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

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

## 1.4 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 YTZ is measured and described in **Section 2**.
- Using industry standard multipliers, **Section 3** infers the indirect and induced employment impacts related to YTZ operations.
- **Section 4** also uses multipliers to infer other economic impacts related to YTZ operations, such as GDP and economic output, and impacts related to capital investments.
- In addition, **Section 5** measures the tax contribution of YTZ by estimating taxes paid by employers, employees and passengers using the airport.
- As the economic impacts of YTZ extend beyond the airport, **Section 6** describes the catalytic impacts related to YTZ operations.
- Finally, the economic impact study results are summarised in **Section 7**.

## 2. Direct Economic Impacts

### 2.1 Introduction

This section describes the total employment, in both jobs and person years (full time equivalents)<sup>15</sup>, and estimated payroll attributable to employers directly related to on-going operations at Billy Bishop Toronto City Airport (YTZ). The direct economic impacts are based on data from the employer survey.

Employment attributable to on-going YTZ operations was measured by surveying 43 businesses and organizations located at YTZ 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, 74% of the businesses and organisations contacted responded to the survey, representing nearly 97% of total person years of employment covered by the survey.

This is a high response rate for a survey of this type.<sup>16</sup>

This section also examines the employment generated by on-going operations at YTZ 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 YTZ amounts to approximately 1,700 jobs. After adjusting for part-time and seasonal employment, the 1,700 jobs amount to 1,610 person years of employment.<sup>17</sup> Employees at YTZ and related firms earn approximately \$70 million in wages, yielding an average of \$46,000 per person year of employment, which is relatively high in comparison to the average wage of jobs in the air transportation industry in other Canadian

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<sup>15</sup> 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).

<sup>16</sup> The average response rate to a survey of this nature is in the range of 60%-70%.

<sup>17</sup> Of this total, 54 person years were inferred for firms that did not respond to the survey. See **Appendix E** for details.

provinces.<sup>18</sup> Employment figures are summarised in **Table 2-1** for wages, as well as jobs and person years.

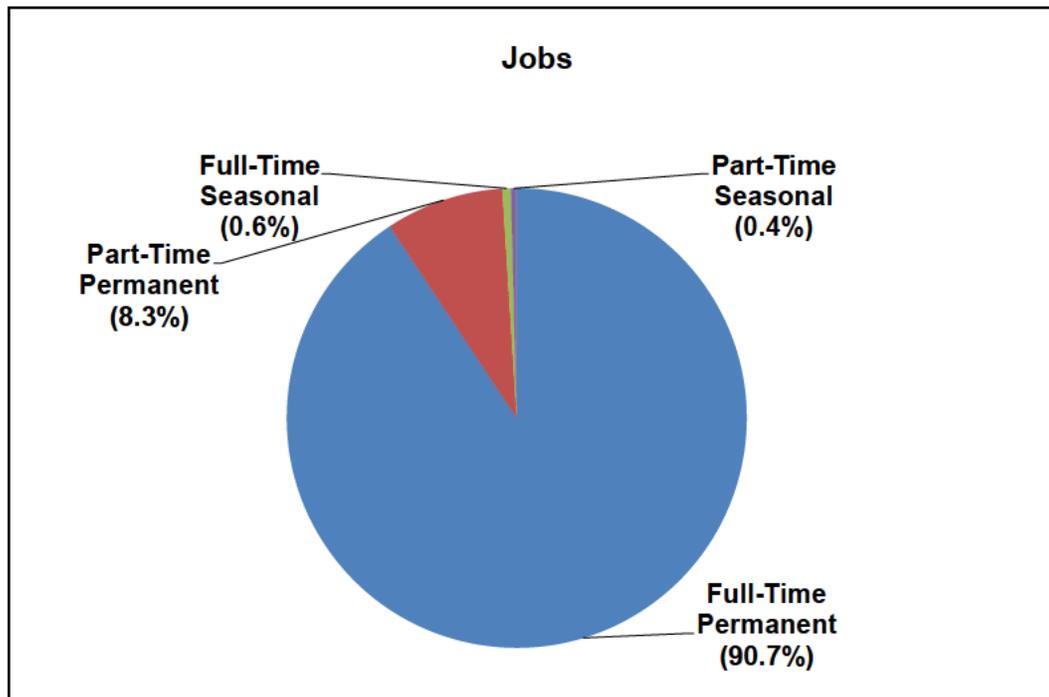
**Figure 2-1: Direct Employment and Wages at Billy Bishop Toronto City Airport (YTZ)**

Type of Impact	Employment (Jobs)	Employment (Person Years)	Wages (\$ Millions)
<i>Direct</i>	1,700	1,610	74

### 2.3 Full-time versus Part-Time and Seasonal Employment

Of the surveyed direct jobs attributable to YTZ operations and other airport related businesses in 2011, 1,630 jobs (or 96%) are from onsite firms located at the airport; the remaining 70 jobs (4%) are from offsite firms related to the airport. Based on surveyed direct jobs, approximately 99% of onsite and offsite jobs related to on-going operations at YTZ are permanent positions, while 1% of these jobs are seasonal positions. Approximately 92% of the permanent positions are full-time positions. The breakdown of permanent and seasonal jobs by full-time and part-time positions is presented in **Figure 2-2**.<sup>19</sup>

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



Note: Does not include contract and inferred jobs.

<sup>18</sup> Based on the Government of Canada’s Working in Canada Wage Report for jobs in the air transportation industry ([http://www.workingincanada.gc.ca/wage-outlook\\_search-eng.do?reportOption=wage](http://www.workingincanada.gc.ca/wage-outlook_search-eng.do?reportOption=wage)).

<sup>19</sup> Breakdown of jobs by full-time and part-time positions does not include contract and inferred employment.

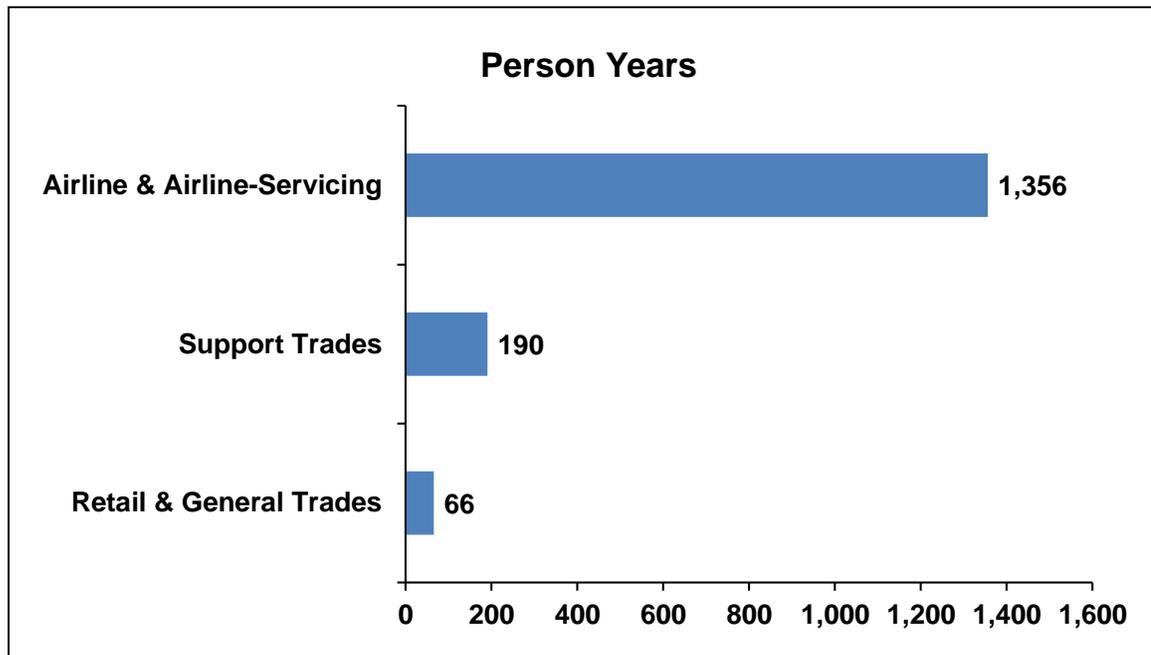
### 2.3.1 Contract Employment

Some employers contract out services to individuals and other firms. It is estimated that 52 jobs, equivalent to 32 person years of employment, are from contract individuals and firms.

## 2.4 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 YTZ can be classified into airline and airline-servicing trades, support trades, retail trades and general trades as shown in **Figure 2-3**. Close to 1,356 (84%) of direct person years are classified as airlines and aircraft servicing positions by YTZ employers and related businesses. Support trades account for 12% of YTZ’s direct employment base with 190 person years. Approximately 4% (66 person years) can be classified as retail trades (including food, hotel and taxi) and general trades.

**Figure 2-3: Current Job Categories at Billy Bishop Toronto City Airport (YTZ)**



## 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.<sup>20</sup>

### 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, 2,500 person years were estimated for total indirect person years related to YTZ. The source of the multipliers was Statistics Canada's 2008 Interprovincial Input-Output Model.<sup>21</sup> This total suggests that 2,500 person years of employment are indirectly generated in industries in the Greater Toronto Area and surrounding regions that supply the businesses of YTZ. Labour income associated with the total indirect employment is estimated at \$140 million per annum.

### 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 YTZ is estimated at 1,300 person years.<sup>22</sup> Induced employment is associated with a wage bill of \$80 million per annum.

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<sup>20</sup> 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.

<sup>21</sup> The multipliers used for the analysis are based on Statistics Canada economic multipliers for Ontario from the 2008 Interprovincial Input-Output model, the most recent available. These multipliers were updated with Consumer Price Indices to account for inflation.

<sup>22</sup> Statistics Canada has recommended some ratios of indirect and induced impacts which are used here.

### 3.4 Total Employment

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

Figure 3-1: Direct and Total Employment: Billy Bishop Toronto City Airport (YTZ)

Type of Impact	Jobs	Person Years	Wages (\$ Millions)
Direct	1,700	1,610	74
Indirect	2,670	2,540	138
Induced	1,310	1,250	76
<b>Total</b>	<b>5,680</b>	<b>5,400</b>	<b>288</b>

## 4. Other Economic Impacts

### 4.1 Economic Output and GDP Impacts

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 YTZ 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. Statistics Canada produces economic multipliers both for Canada and all of the provinces and territories, and these are both more cost effective and more accurate than obtaining the data from surveys. This method, using 2008 Statistics Canada economic multipliers for Ontario, is the approach adopted here.

**Figure 4-1** provides economic output and GDP impacts related to on-going operations at YTZ for the Greater Toronto Area and surrounding regions.

**Figure 4-1: Direct and Total GDP and Economic Output:  
Billy Bishop Toronto City Airport (YTZ)**

Type of Impact	GDP (\$ Millions)	Economic Output (\$ Millions)
Direct	203	897
Indirect	290	561
Induced	148	438
<b>Total</b>	<b>641</b>	<b>1,896</b>

The direct employment described in Section 2 generates \$200 million in direct gross domestic product and \$900 million in direct economic output in the Toronto economy. Including multiplier effects, operations at YTZ may be supporting up to \$640 million in total (direct, indirect and induced) GDP and \$1.9 billion in economic output, economy-wide in the Greater Toronto Area and surrounding regions.

## 4.2 Non-Local Visitor Spending

The air services at YTZ 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 YTZ 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 the Canadian Tourism Commission (CTC) to YTZ transborder passenger traffic.

Based on forecasted 2012 passenger traffic information from the Toronto Port Authority, it is estimated that approximately 146,775 passengers arriving at YTZ are non-local visitors.<sup>23</sup> On average, U.S. visitors to Canada spend approximately \$842.00 per trip.<sup>24</sup> By applying the average U.S. visitor spending data, this study found that the non-local visitor spending impacts of the air services at YTZ amounts to approximately \$123.6 million a year.

## 4.3 Capital Investment Impact Example

In addition to the employment and other economic impacts of on-going operations from the YTZ business community, there are also economic impacts associated with the airport's capital expenditures. The capital expenditures include spending on construction, equipment, and raw and finished materials, all of which support employment, GDP and economic output. This section assesses the economic impacts associated with the airport's pedestrian tunnel project, in particular.

In order to improve access to Billy Bishop Toronto City Airport, the Toronto Port Authority is building a pedestrian tunnel under the Western Gap to link the airport with Toronto's downtown core. Construction of the 800-foot pedestrian tunnel began in March 2012, and is scheduled to be completed by spring 2014. The total cost of the pedestrian tunnel project is approximately \$82.5 million.

Using Statistics Canada economic multipliers, the economic impacts of the airport's pedestrian tunnel project were estimated.<sup>25</sup> These multipliers estimate the direct, indirect and induced employment generated by each dollar of capital spending on the project, as well as wages, GDP and economic output. The pedestrian tunnel project is estimated to generate 530 direct person

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<sup>23</sup> It is assumed that 50% of forecasted 2012 enplaned non-connecting transborder passengers are non-local visitors.

<sup>24</sup> U.S. visitor characteristics were obtained from the Canadian Tourism Commission's Travel Characteristics Q4 2010 report, which contains the most recent statistics on U.S. visitors to Canada 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 2010 was used in the estimate and adjusted to 2012 dollar values to account for inflation.

<sup>25</sup> The economic impacts of the pedestrian tunnel project are estimated in 2012 dollars.

years of employment. The estimated person years of employment, wages, GDP and output generated within the Greater Toronto Area and surrounding regions by the pedestrian tunnel project are provided in **Figure 4-2**.

**Figure 4-2: Total Economic Impact of Billy Bishop Toronto City Airport's (YTZ's) Pedestrian Tunnel Project<sup>26</sup>**

Type of Impact	Employment (Person Years)	Wages (\$ Millions)	GDP (\$ Millions)	Economic Output (\$ Millions)
<i>Direct</i>	530	28.6	44.0	82.5
<i>Indirect</i>	260	13.9	25.9	57.7
<i>Induced</i>	240	12.7	21.0	46.2
<b>Total Impacts</b>	<b>1,030</b>	<b>55.2</b>	<b>90.0</b>	<b>186.4</b>

Notes: The economic impacts of the pedestrian tunnel project are estimated in 2012 dollars.

<sup>26</sup> The economic impacts of the pedestrian tunnel project are estimated in 2012 dollars.

## 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.<sup>27</sup>
- **Taxes and fees paid by passengers.** Visitors pay various taxes and fees. For example, these include taxes on personal expenditures at YTZ 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 Payments-in-Lieu Taxes paid by the Toronto Port Authority.** YTZ pays taxes in the form of property taxes. Government revenues paid by the Toronto Port Authority also include the Gross Revenue Charge and Payments-in-Lieu of Taxes.

For each category, taxes paid to the federal, provincial and local levels of government are separately identified.<sup>28</sup>

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

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<sup>27</sup> 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.

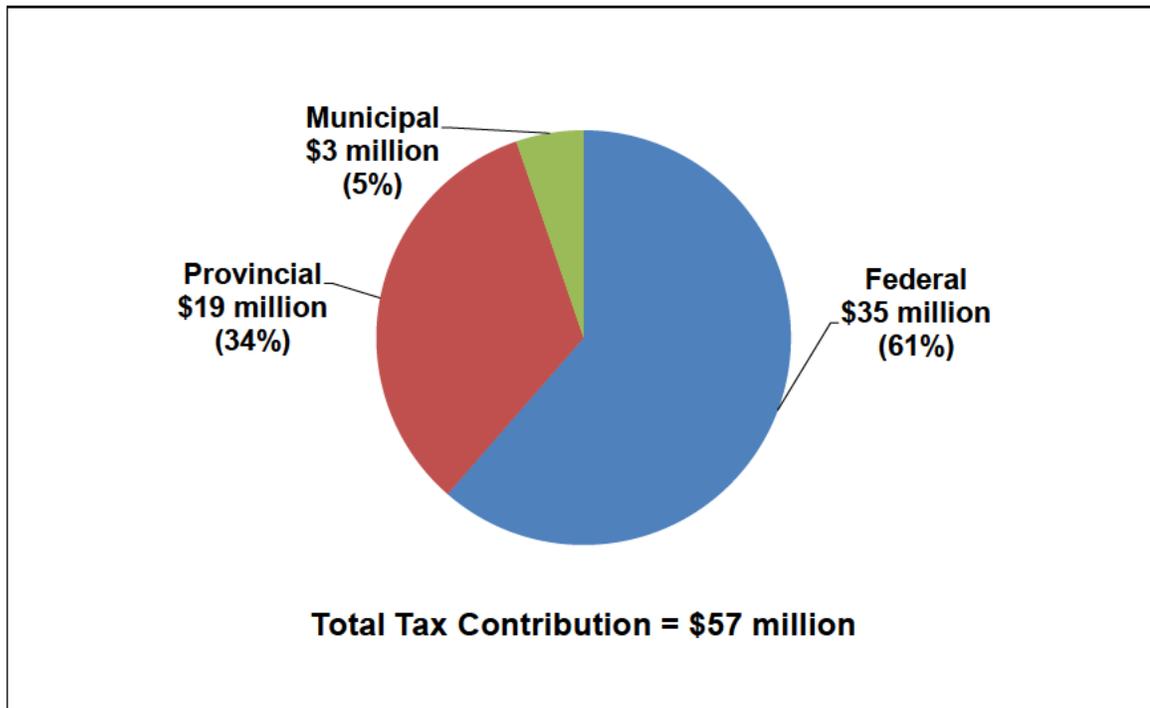
<sup>28</sup> For the most part, this study **estimates** (some tax envelopes were measured directly, e.g., tenant property taxes) taxes paid from information on the passengers, employers and employees at the airports. In a few situations, such as the corporate income tax paid by employers, an approximate method was used to estimate taxes paid. In every case conservative methods were used. No major tax has been excluded.

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 YTZ generated tax revenue contributions to all levels of government, estimated to be in the order of \$57 million.<sup>29</sup> The federal government is the largest recipient of tax revenue, receiving nearly \$35 million (61% of the total), as seen in **Figure 5-1**. The provincial government received a tax revenue contribution of \$19 million (34% of the total), while the municipal government received nearly \$3 million in tax revenues (5% 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.

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



<sup>29</sup> Taxation impacts are based on calendar year 2011, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on year-to-date September 2012 passenger traffic volumes.

## 5.3 Summary of Tax Contribution

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

**Figure 5-2: Current Tax Contributions of YTZ Airport Passengers and Businesses – 2011**

SUMMARY OF TAX CONTRIBUTIONS BY BILLY BISHOP TORONTO CITY AIRPORT (YTZ) - 2011						
	Federal		Provincial		Municipal	All Gov'ts
	Tax	Amount (\$'000s)	Tax	Amount (\$'000s)	Tax	Amount (\$'000s)
Paid by Passengers	GST on Airport Improvement Fee (AIF)	733	PST on Airport Improvement Fee (AIF)	1,172		
	GST on Air Fares	9,703	PST on Air Fares	8,251		
	GST on Air Traveller Security Charge (ATSC)	421	PST on Air Traveller Security Charge (ATSC)	390		
	GST on Parking Fees	21	PST on Parking Fees	34		
	GST on Ferry Vehicle Fees	23	PST on Ferry Vehicle Fees	36		
	GST on Accommodation	121	PST on Accommodation	193		
	<b>Total</b>	<b>11,022</b>	<b>Total</b>	<b>10,077</b>		<b>21,100</b>
Paid by Employers or Employees	Personal Income Tax	8,397	Personal Income Tax	3,318	Property Tax	1,405
	Corporate Income Tax	2,618	Corporate Income Tax	1,882		
	EI - Employer	1,646	Workplace Safety and Insurance Board	1,723		
	EI - Employee	1,175	Health Insurance	725		
	CPP - Employer	3,333	PST on Landing Fee	18		
	CPP - Employee	3,333	PST on Airport Operating Fees	1,148		
	GST on Landing Fee	11	Aviation Fuel Tax	626		
	GST on Airport Operating Fees	717	PST on Aviation Fuel	38		
	Aviation Fuel Tax	928				
	GST on Aviation Fuel	24				
	<b>Total</b>	<b>22,181</b>	<b>Total</b>	<b>9,479</b>	<b>Total</b>	<b>1,405</b>
Paid by Toronto Port Authority	Gross Revenue Charge	1,554			Property Tax	68
	<b>Total</b>	<b>1,554</b>			Payment-in-Lieu of Taxes	1,239
				<b>Total</b>	<b>1,307</b>	<b>2,861</b>
<b>Grand Total</b>	<b>34,757</b>	<b>Grand Total</b>	<b>19,557</b>	<b>Grand Total</b>	<b>2,712</b>	<b>57,025</b>

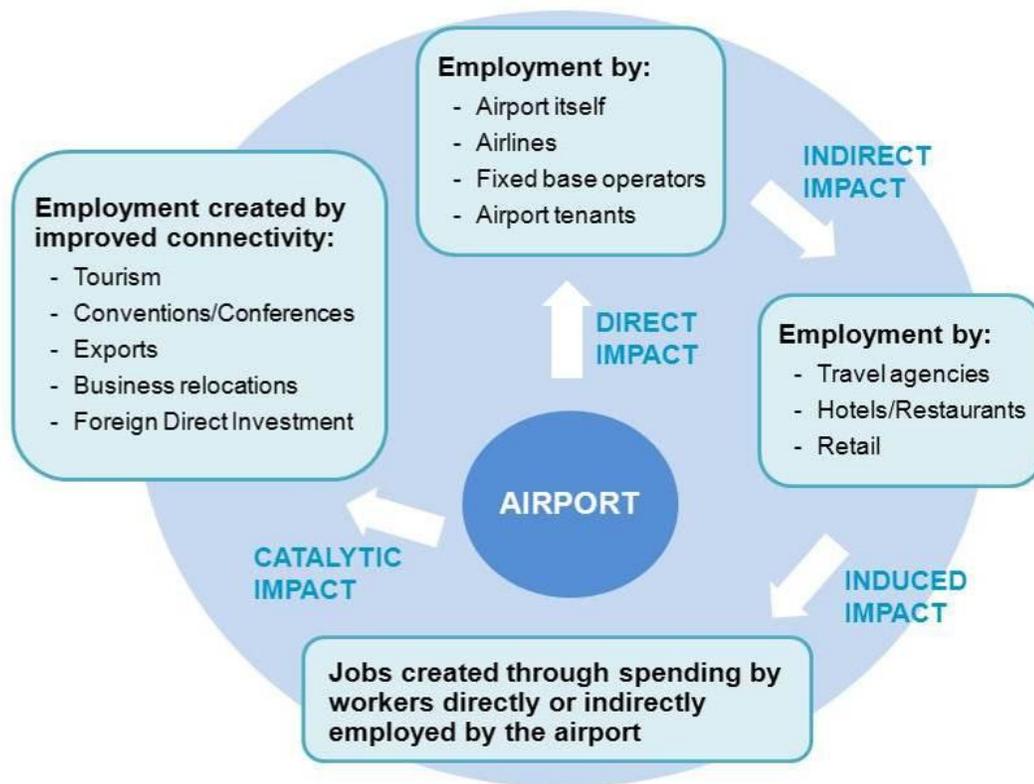
**Notes:**

- 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 2011, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on forecasted 2012 passenger traffic volumes.

## 6. Catalytic Impacts

Beyond the direct, indirect, and induced economic impacts noted earlier, air service also contributes other positive effects to a region that can be more difficult to assess. These “catalytic effects” of air transport contribute in other ways to a local or regional economy. They are important beneficial economic events or activities that occur in an area that are attributable to the presence of the airport or of a particular type of air service. **Figure 6-1** illustrates the potential catalytic impacts of an airport, together with the direct, indirect and induced economic impacts. This section provides a discussion of these catalytic impacts.

**Figure 6-1: Potential Direct, Indirect, Induced and Catalytic Impacts of an Airport**



### 6.1 Aviation Supports Economic Development

Air transportation facilitates employment and economic development in the national and regional economy through increased trade, attracting new businesses to the region and encouraging investment. It supports long-term economic growth by providing linkages between a country and the global economy through greater connections to international business markets and greater access to resources. Industries and activities that would otherwise not exist in a region can be

attracted by improved air transport connectivity. Thus, aviation yields additional benefits to direct users and generates further positive impact on performance and economic activity of a country.

In particular, catalytic effects can include some or all of the following:

- **Employment effects** - the attractiveness of an area for the creation of new or retention of existing job opportunities. For example, companies may choose to locate in a region because of the presence of the airport, particularly if the airport enjoys service to a certain destination (e.g., non-stop service to New York, Chicago or Boston)
- **Trade effects** – additional air service opens new export markets to many businesses as a result of new destinations, better flight connections and higher frequencies offered. For example, the airport's presence can contribute to the export success of companies located in the area by the provision of freight links to key markets or by its ability to provide fast and efficient freight service. This leads to a broader demand for existing products.
- **Investment effects** – a key factor many companies take into account when making decisions about location of office, manufacturing or warehouses is proximity of an international airport.
- **Productivity effects** – air transportation offers access to new markets which in term enables businesses to achieve greater economies of scale. Air access also enables companies to attract and retain high quality employees.

Taken together, these issues contribute to an overall sense of a region's attractiveness and competitiveness.<sup>30</sup>

## 6.2 Toronto's Economic Direction

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 \$144 billion in 2011, comprising 11% of Canada's national GDP.<sup>31</sup> Annually, businesses based in Toronto export goods and services to international destinations amounting to \$70 billion and report retail sales totalling \$62 billion.<sup>32</sup> The city's economy consists of 11 key economic sectors including business and professional services, education services, film and television, food and beverage, information and communication technology (ICT), tourism, design, fashion/apparel, financial services, green and life sciences.

### 6.2.1 International and Continental

Toronto competes at the international and continental level. The Toronto Stock Exchange ranks among the seventh largest in the world measured by market value. According to the 2011 *Cities of Opportunities* report by PricewaterhouseCoopers, which analyzes and ranks 26 global centers of finance, business and culture, Toronto is one of the top five global cities, together with New York,

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<sup>30</sup> A more international perspective on this issue can be obtained by reading IATA's "Aviation Economic Benefits," IATA Economics Briefings No. 8, available at <http://www.iata.org/economics>.

<sup>31</sup> City of Toronto website.

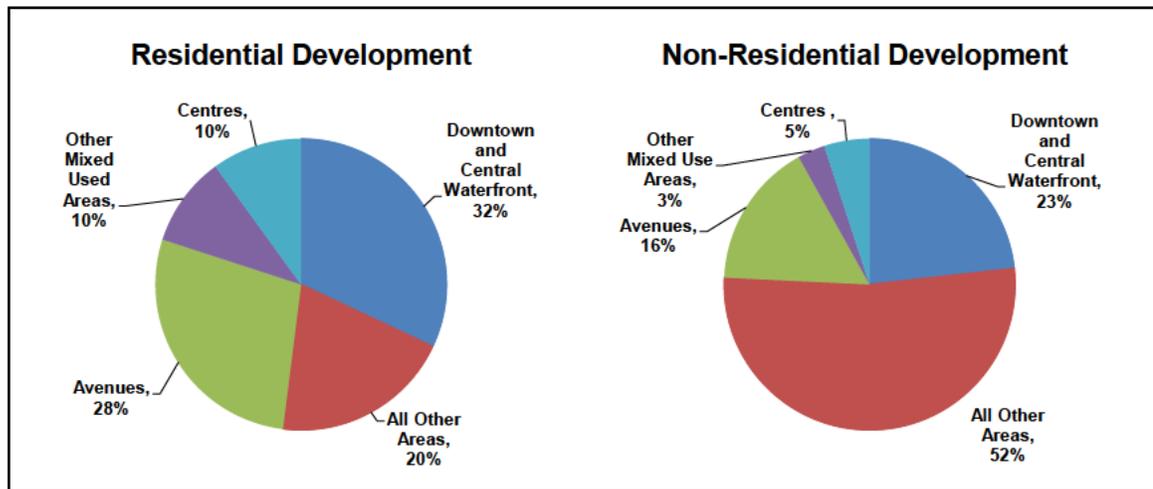
<sup>32</sup> City of Toronto website.

San Francisco, Stockholm and Sydney.<sup>33</sup> The city is also considered among the top five leading North American cities for economic potential and infrastructure in a ranking conducted by fDi Magazine, a publication of the Financial Times of London, entitled *American Cities of the Future*.

### 6.2.2 Downtown Core Development

Furthermore, the downtown core is once more developing in Toronto. There has been increasing residential and non-residential development activity in neighborhoods in Toronto’s downtown core, leading to continued growth and urbanization. **Figure 6-2** shows that residential development in the downtown and central waterfront area comprises 32% of proposed residential units in the City of Toronto, while non-residential development comprises 23% of proposed commercial development in the city. More people have been moving to the downtown core and central waterfront area with over 34,500 new residential units constructed in the city between 2006 and 2010.<sup>34</sup> Similarly, with approximately 977,000 square meters of commercial space proposed in the area between 1 June 2006 and 31 December 2010, development prospects in the city are generating employment.<sup>35</sup>

**Figure 6-2: Location of Proposed Residential and Non-Residential Developments in the City of Toronto**



Source: City of Toronto, *How Does the City Grow*, June 2011.

<sup>33</sup> Pricewaterhouse Coopers, *Cities of Opportunities*, 2011.

<sup>34</sup> City of Toronto, *How Does the City Grow*, June 2011.

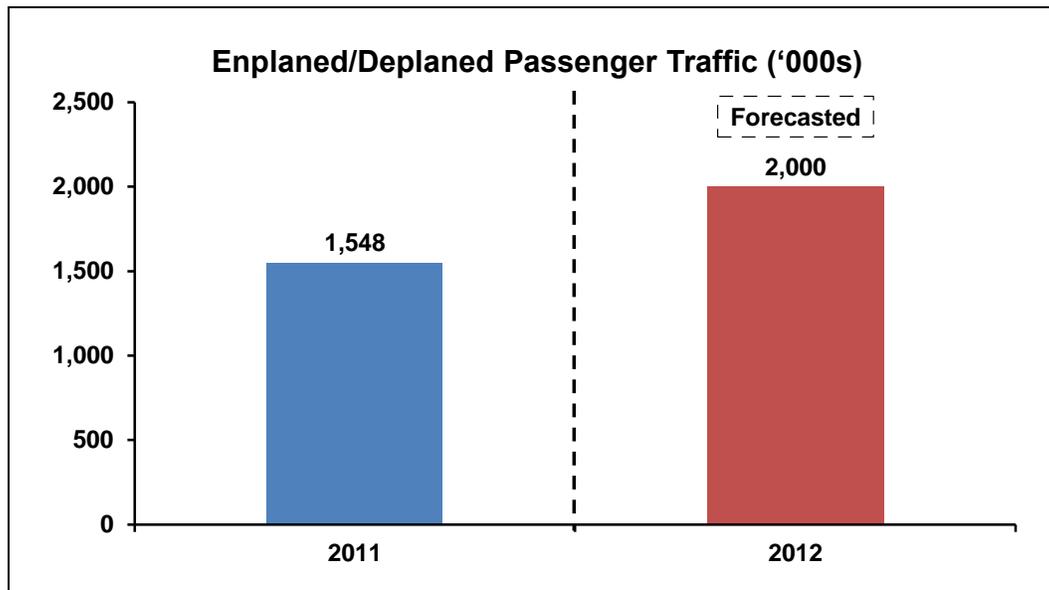
<sup>35</sup> City of Toronto.

## 6.3 The Airport’s Role

### 6.3.1 The Passengers

The convenience and accessibility of Billy Bishop Toronto City Airport, coupled with its 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. More than 1.5 million passengers travelled via the airport in 2011.<sup>36</sup> With its continued improvement of facilities and expansion of services, passenger traffic at the airport is expected to grow to 2 million passengers in 2012, as shown in **Figure 6-3**.

**Figure 6-3: Air Passenger Traffic at Billy Bishop Toronto City Airport (YTZ), 2011 & 2012**



Source: Toronto Port Authority

Notes: Passenger traffic figures do not include connecting passengers.

<sup>36</sup> Passenger traffic figures for 2011 do not include connecting passengers (approximately 297,000 passengers).

### 6.3.2 Potential Passenger Impacts

With passenger traffic forecasted to rise to two million passengers by the end of 2012, the economic impact of operations at Billy Bishop Toronto City Airport is likewise estimated to increase.<sup>37</sup> This projected passenger traffic is assessed to generate approximately 1,750 *direct* person years of employment in Toronto, earning \$80 million in wages. The *direct* employment associated with the forecasted passenger traffic is estimated to contribute approximately \$220 million in *direct* GDP and \$980 million in *direct* economic output.

### 6.3.3 The Connections

Billy Bishop Toronto City Airport offers convenient connections to cities and markets across the northeastern North America, as shown in **Figure 6-4**. The number of destinations accessible from YTZ has increased dramatically in the last five years from less than five cities in 2007 to 18 cities in 2012. Likewise, annual seat capacity on services from the Billy Bishop Toronto City Airport has also increased. Total non-stop services from YTZ scheduled for 2012 include over 2.1 million seats. A summary of non-stop scheduled air services in 2012 is provided in **Figure 6-5**.

**Figure 6-4: Route Map of Services Offered at Billy Bishop Toronto City Airport (YTZ)**



Source: Porter Airlines.

<sup>37</sup> Academic studies have shown that the aviation industry benefits from economies of scale, wherein a 1% increase in passenger traffic does not necessarily result in a 1% increase in employment at the airport. (For example: Gillen, Oum and Tretheway, "Airline Cost Structure and Policy Implications: A Multiproduct Approach for Canadian Airlines," *Journal of Transport Economics and Policy*, January 1990, pp.9-34.) Taking this consideration into account, the economic impacts associated with the 2012 forecasted passenger traffic was estimated based on knowledge gained from previous economic impact studies conducted by InterVISTAS and on information collected on major employers for the current economic impact study at YTZ.

**Figure 6-5: Non-Stop Scheduled Flights Departing from Billy Bishop Toronto City Airport (YTZ), 2012**

<b>Country</b>	<b>City</b>	<b>Total Annual Seat Capacity 2012</b>
Canada	Montréal	706,306
	Ottawa	352,450
	Thunder Bay	113,960
	Sudbury	87,360
	Sault Ste Marie	71,750
	Windsor	67,410
	Québec	66,710
	Timmins	62,230
	Mont Tremblant	8,400
	Halifax	6,090
	Moncton	1,610
<b>Canada Total</b>		<b>1,544,276</b>
United States	New York	282,100
	Boston	135,310
	Chicago	121,450
	Washington	58,520
	Myrtle Beach	4,760
	Burlington	2,030
<b>United States Total</b>		<b>604,170</b>
<b>Grand Total</b>		<b>2,148,446</b>

Source: Official Airline Guide (OAG) based on non-stop scheduled services for 2012.

Notes:

- Services to Mont Tremblant, Halifax, Moncton, Myrtle Beach and Burlington are seasonal services.
- Services to Timmins and Dulles were launched mid-year; thus, only captures partial annual seat capacity.
- Table above only includes seat capacity for non-stop scheduled services departing from YTZ. In 2012, YTZ also offers year-round services to Halifax connecting through Montreal and Ottawa and services to St. John's connecting through Halifax.

### 6.3.4 How This Supports Economic Trends

The City of Toronto and the province of Ontario have important economic sectors with international competitiveness and strength, generating synergies and stimulating economic growth. To build economic growth and investment in the area, the Toronto Board of Trade is examining and developing a cluster-based strategy, focusing on key industries.

Billy Bishop Toronto City Airport has played and will continue to play a significant role in providing the necessary transportation access and linkages to other major business and financial sectors. This will contribute to the growth of overall economy for the city, the province and the country as a whole. Air services from YTZ may include some or all of the following catalytic impacts on Toronto's key economic clusters<sup>38</sup>:

- **Advanced Manufacturing Cluster**

Includes Auto & Parts, Aerospace and Advanced Materials, the Toronto Region is the headquarters of many internationally competitive companies from a diverse range of industries, producing high value-added products. To counter competitive challenges to the sector brought about by the global economic recession, the region aims to increase productivity by investing in innovative practices and technologies and to increase opportunities for growth by tapping into faster growing markets other than the U.S.

Air transportation can assist in the trade of the high-value products produced in this sector by offering access to new international markets and the provision of efficient services. Bombardier uses Porter's and Air Canada's unique Q400 operations at the airport as an example of aircraft operations for international clients arriving to consider purchasing these aerospace products. There is therefore an important strategic link between the airport and Toronto aerospace manufacturing.

- **Energy Cluster**

With expertise in nuclear plant development and refurbishment and a strong electrical infrastructure development, the region plans to develop new opportunities and create strategies to meet government targets and to ensure reliable and cost-competitive energy supply. These solutions include building a consistent long-term energy strategy and improving smart grid applications to integrate renewable technologies.

By providing services to assist in export opportunities for domestic goods and services and access to international markets, air transportation can assist in maximizing the economic opportunities in this sector.

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<sup>38</sup> Based on the Toronto Board of Trade's Toronto Region Economic Summit 2012.

- **Financial Cluster**

Ranked as the third largest financial services centre in North America, following New York and Chicago, Toronto has one of the strongest and safest financial systems. According to the Toronto Financial Services Alliance, over 217,400 individuals are employed in Toronto's financial services sector, and over 70% of these employees have post-secondary degrees and accreditation, which is high in comparison to other industrialized countries. In order for Canadian banks to continue to generate revenue and economic growth, it is important for the region to enhance global competitiveness in financial services by establishing itself as a global leader in integrative risk management and mining, metals and energy financing, developing a partnership between government and industry leaders, and building upon the environment for business and diverse talent base of the region.

Air services can support leading financial institutions in the region by providing air access that will allow convenient business travels for these companies and employees. Toronto is particularly well positioned to link with financial centres in the U.S. including New York City, Boston and Chicago. With existing air services, business people in the financial sector can make same-day trips to these international financial centres.

- **Food & Beverage Cluster**

With access to a large customer base of approximately 120 million and rich resources such as water and agriculture, Toronto's Food & Beverage cluster currently employs approximately 230,000 workers and is expected to grow by 2.2% over the next five years. In order to sustain and expand the performance and attractiveness of the food processing industry, the region intends to provide solutions to businesses through unified competitive commercial property taxes across the Greater Toronto Region and improved access to capital opportunities for start-up and expansion.

Air access provides major food manufacturing companies, food processors and retailers headquartered in the region access to international markets. Additionally, Porter Airlines has taken a leadership role in introducing branded Toronto food & beverage products to a wider national and international audience.

- **Information and Communication Technology (ICT) & Creative Cluster**

As investment of businesses in ICT would lead to an increase in Toronto's productivity, the region aims to build on its strengths of a single industry association and access to a good educational system. Broadening the ICT curriculum and creating growth-oriented tax incentives will help address the challenges of a lack of a talent pool and the mentality to sell out early versus to grow a business.

A strong air transportation network can assist the region in providing linkages to other international regions and in attracting investment and people. Toronto is also one of the largest theatre centres in the world – only London, England and New York City support more theatre

than Toronto. Air services at Billy Bishop Toronto City Airport make it convenient for guests to arrive for overnight visits, and visit Toronto's creative offerings.

- **Life Sciences Cluster**

Through its diverse hospital network and linkages to the Québec-Ontario Health and Life Sciences Corridor, the Toronto Region can hold an integral role in research and development in biology and medicine. With research moving east to China and India and the issues of rising capital, it is essential for the region to leverage purchasing/procurement power to drive greater innovation and improve access to capital opportunities for start-up and expansion.

With recent investments in this sector, such as the development of a new \$200 million research centre for clinical trials at Roche Canada's Mississauga plant and the opening of a \$101 million vaccine research and development facility by Sanofi Pasteur in Toronto, the air services industry can facilitate in bringing together researchers and academic professionals from around the world to support the region's bioscience industry.

- **Transportation & Logistics Cluster**

Strong inter-modality across all modes of transportation and strong geographical endowment provide the Toronto Region opportunities to expand distribution logistics firms. However, the lack of long-term infrastructure financing and shortage in skill and apprenticeship at the trade skill level pose challenges to this sector; thus, it is essential to leverage domestic procurement and expertise to develop exportable knowledge and products and align industry needs with educational institutions.

Air transportation is a key part of the strong inter-modality across the region. Together with other modes of transportation, such as trucking and rail transport, air transportation supports the interconnected logistics activities across various sectors. Air Canada has a wide network and offers connections to over 175 destinations around the globe. Recently, Porter Airlines signed an interline agreement with Qatar Airways, allowing convenient connections for passengers traveling from the Middle East to Canada. Thus, both carriers provide vital global transit connections.

## 7. Summary of Economic Impact

### 7.1 On-Going Economic Impacts

Billy Bishop Toronto City Airport (YTZ) is considered a key strategic asset to the City of Toronto. On-going operations at the airport may support up to a *total* of 5,700 jobs equivalent to 5,400 person years of employment in the Greater Toronto Area and other nearby regions, when multiplier impacts are present. Of this employment, 1,700 jobs (equal to 1,600 person years) are *directly* related to the airport. Because jobs related to the airport extend far beyond YTZ, the total also includes both indirect (approximately 2,500 person years) and induced employment (1,300 person years).

YTZ generates direct employment in Toronto and contributes significantly to the economy of the Greater Toronto Area and other nearby regions. The significance of the airport is demonstrated by the *direct* economic impact of the airports' employment on GDP and output, measured at \$200 million and \$900 million respectively. Including indirect and induced impacts, the *total* impacts are approximately \$640 million and \$1.9 billion, respectively. **Table 7-1** summarises the economic impacts of on-going operations at YTZ.

**Figure 7-1: On-Going Total Economic Impacts of Billy Bishop Toronto City Airport (YTZ)**

Type of Impact	Employment (Jobs)	Employment (Person Years)	Wages (\$ Millions)	GDP (\$ Millions)	Economic Output (\$ Millions)
<i>Direct</i>	1,700	1,610	74	203	897
<i>Indirect</i>	2,670	2,540	138	290	561
<i>Induced</i>	1,310	1,250	76	148	438
<b>Total ON Impacts</b>	<b>5,680</b>	<b>5,400</b>	<b>288</b>	<b>641</b>	<b>1,896</b>

### 7.2 Annual Tax Contribution

YTZ 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 \$57 million per year.<sup>39</sup> The majority of taxes collected accrue to the federal and provincial governments at 61% and 34%, respectively. The municipal government also benefits from YTZ, such as through the collection of property taxes and Payments-in-Lieu of Taxes amounting to nearly \$3 million (see

<sup>39</sup> Taxation impacts are based on calendar year 2011, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on forecasted 2012 passenger traffic volumes.

**Figure 7-2).**<sup>40</sup> This relative proportion of tax revenues among the three levels of government is standard for airports.

**Figure 7-2: Estimated Annual Tax and PILT Revenues of Billy Bishop Toronto City Airport (YTZ) to Government (\$ Millions)**

<b>Taxpayer</b>	<b>Federal</b>	<b>Provincial</b>	<b>Municipal</b>	<b>Total</b>
Passengers	11.0	10.1		<b>21.1</b>
Employers or Employees	22.2	9.5	1.4	<b>33.1</b>
Toronto Port Authority	1.5		1.3	<b>2.8</b>
<b>Total</b>	<b>34.7</b>	<b>19.6</b>	<b>2.7</b>	<b>57.0</b>

Notes:

- Totals may not add, due to rounding.
- Taxation impacts are based on calendar year 2011, except for taxes collected from air fares and the Air Traveller Security Charge (ATSC) which are based on forecasted 2012 passenger traffic volumes.

### 7.3 Summary Conclusion

Billy Bishop Toronto City Airport (YTZ) plays a significant role in providing critical regional and continental transportation linkages to support and grow Toronto's economy. The airport's rapid growth and support of high-value business passengers has been unique in North America in recent years. Billy Bishop Toronto City Airport has become an essential facilitator in the growth of trade and tourism for Toronto.

The City of Toronto and the province of Ontario have important economic sectors with international competitiveness and strength, generating synergies and stimulating economic growth. Billy Bishop Toronto City Airport has played and will continue to play a significant role in providing the necessary transportation access and linkages to other major business and financial sectors. This will contribute to the growth of overall economy for the city, the province and the country as a whole.

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<sup>40</sup> 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 A: Employment Survey

### Identification of the Survey Population

A total of 43 firms that received employment surveys for the YTZ economic impact study included airport tenants, offsite firms, hotels and ground transportation firms directly related or dependent upon the airport. Toronto Port Authority provided a list of airport tenants, while InterVISTAS identified the offsite employers, hotels and ground transportation firms closely tied to airport operations using several phone directories.

**Table A-1: Total Number of Firms Surveyed**

Type of Impact	Number of Firms Surveyed	Number of Responding Firms	Response Rate
<b>Billy Bishop Toronto City Airport (YTZ) Employers</b>	15	13	86.7%
<b>Offsite Employers (including ground transportation firms)</b>	17	12	70.6%
<b>Hotels</b>	11	7	63.6%
<b>Total</b>	<b>43</b>	<b>32</b>	<b>74.4%</b>

### 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 and fax numbers
- Email and website address
- Type of business

### Total Employment Numbers

- Total employees (*as of March 2012*)
- 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

Copies of the surveys are provided in **Appendix B**.

## Conducting the Survey

The survey was mailed out electronically by InterVISTAS Consulting with a cover letter from Toronto Port Authority President and 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.<sup>41</sup> 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.<sup>42</sup> They come in a variety of forms and differ greatly in definition and application. Thus, great care must be exercised in choosing the

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<sup>41</sup> 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.

<sup>42</sup> The multipliers used for the analysis are based on Statistics Canada economic multipliers for Ontario from the 2008 Interprovincial Input-Output model, the most recent available. These multipliers were updated with Consumer Price Indices to account for inflation.

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 April to June 2012 and the results reflect employment as of March 2012.

## Appendix B: Sample Survey

**Billy Bishop Toronto City Airport**  
On-site Employment Survey

March 2012

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.

<b>YTZ Related Business:</b> (as of March 2012)	%
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**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?

<b>Air Cargo Related Business:</b> (as of March 2012)	%
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**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.

<b>Total Number of Employees:</b> (as of March 2012)	
<b>Total Annual Payroll:</b> (Excluding employee benefits, 2011 figures)	

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- 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 (2011)?

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

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For seasonal workers, on average, how many weeks will they work this year (2011)?

<b>Number of Weeks Per Year:</b>	
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For part-time seasonal workers, on average, how many hours per week will they work this year (2011)?

<b>Number of Weekly Hours:</b>	
--------------------------------	--

*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.

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

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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?

<b>Number of Weeks Per Year:</b>	
<b>Number of Weekly Hours:</b>	

**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 2011
<i>Example: Janitorial</i>	<i>Spic and Span Cleaners</i>	<i>100 a year (2 hours per week)</i>

**Q9. Property Taxes Paid in 2011**

Please indicate the amount of property taxes paid by your firm in 2011.

<b>Total Property Taxes Paid</b> (2011)	
--	--

Thank you for your assistance in completing this survey.

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

Attention: Celina Ramirez  
Email: [celina.ramirez@intervistas.com](mailto:celina.ramirez@intervistas.com)  
Fax: 604-717-1818

If you have any questions, please call  
Celina Ramirez at 1-877-717-6246 (ext. 1845).

## 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
	<b>1,832 hours per person year</b>

Workdays vary anywhere from 6.5 to 8 hours; however, in order to be conservative, an 8 hour workday was assumed.<sup>43</sup> Similarly, numbers of vacation and sick leave days may also vary.

<sup>43</sup> 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

**Table D-1: Total Jobs and Person Years**

<b>Total Jobs and Person Years</b>		
	<b>Jobs</b>	<b>Person Years</b>
Surveyed employment <sup>1</sup>	1,581	1,525
Inferred employment for non-respondents <sup>2</sup>	65	54
Contract employment	52	32
<b>Total</b>	<b>1,698</b>	<b>1,611</b>
<sup>1</sup> Appendix A <sup>2</sup> Appendix E <sup>3</sup> 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.<sup>44</sup>

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.

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<sup>44</sup> 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 52 jobs equivalent to 32 person years of contract employment supplied by firms doing work for YTZ firms and contract employees working for firms at YTZ. These included janitorial, snow removal and maintenance.

## 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.

# 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 2011 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 YTZ. These questions are highlighted and simplifying assumptions are put forth.

## Employment at YTZ

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 1,612 person years. The total payroll is estimated at \$74 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 \$8.4 million in federal tax and about \$3.3 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, 2011*.

**Figure H-1: Ontario Single Tax Filer Income Tax Calculation – 2011**

Ontario Single Tax Filer Income Tax Calculation						
<b>Income</b>						
Employment	20,000	40,000	60,000	80,000	100,000	
Other	2,000	4,000	6,000	8,000	10,000	
<b>TOTAL</b>	<b>22,000</b>	<b>44,000</b>	<b>66,000</b>	<b>88,000</b>	<b>110,000</b>	
<b>Deductions</b>						
RPP	45	496	1,289	2,892	2,168	
RRSP	256	1,009	2,099	3,395	6,693	
Carrying Charges	50	156	243	404	820	
Union	38	147	317	509	338	
<b>TOTAL</b>	<b>389</b>	<b>1,808</b>	<b>3,948</b>	<b>7,200</b>	<b>10,019</b>	
<b>Taxable Income</b>	<b>21,611</b>	<b>42,192</b>	<b>62,052</b>	<b>80,800</b>	<b>99,981</b>	
<b>Credits</b>						
Basic Federal	10,527	10,527	10,527	10,527	10,527	
Basic Provincial	9,104	9,104	9,104	9,104	9,104	
CPP	541	1,328	1,595	1,787	1,746	
EI	198	463	526	589	532	
Charity	125	334	606	804	1,212	
Fed. Total	11,391	12,653	13,254	13,707	14,017	
Prov. Total	9,968	11,230	11,831	12,284	12,594	
Federal Tax Credit Rate	15%	15%	15%	15%	15%	
Provincial Tax Credit Rate	5.1%	5%	5%	5%	5%	
Federal Credits	1,709	1,898	1,988	2,056	2,103	
Provincial Credits	503	567	597	620	636	
<b>Tax Payable</b>						
Federal - Bracket 1	3,242	6,232	6,232	6,232	6,232	
Federal - Bracket 2	0	143	4,512	8,636	9,140	
Federal - Bracket 3	0	0	0	0	4,392	
Federal Total	3,242	6,374	10,743	14,868	19,763	
<b>Basic Federal</b>		<b>1,533</b>	<b>4,476</b>	<b>8,755</b>	<b>12,812</b>	<b>17,661</b>
ON - Bracket 1	1,091	1,908	1,908	1,908	1,908	
ON - Bracket 2	0	404	2,221	3,457	3,457	
ON - Bracket 3	0	0	0	586	2,727	
ON Total	1,091	2,312	4,129	5,950	8,091	
Basic Provincial		<b>588</b>	<b>1,745</b>	<b>3,532</b>	<b>5,330</b>	<b>7,455</b>
<b>TOTAL TAX PAYABLE</b>		<b>2,121</b>	<b>6,221</b>	<b>12,287</b>	<b>18,141</b>	<b>25,116</b>
<b>Average Rate of Tax</b>						
Federal	9.8%	14.7%	19.8%	22.5%	25.1%	
Provincial	7.1%	10.6%	14.1%	15.9%	17.7%	
	2.7%	4.1%	5.7%	6.6%	7.5%	

## 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 \$1,730 and the provincial corporate income tax collected per employee was \$1,250 in 2011.
3. Assuming all companies pay tax at the average rate per employee calculated above, the 2011 corporation income tax liability of the airports of YTZ employment sector is estimated

to be \$2.6 million toward federal revenues and \$1.9 million toward provincial revenues. The estimated total corporate income tax revenue is about \$4.5 million as shown in **Figure H-2**.

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

<b>Government</b>	<b>Revenue (\$ Millions)</b>
Federal	\$ 2.62
Provincial	\$ 1.88
<b>Total</b>	<b>\$4.50</b>

## Employment Insurance Premiums

### Tax Base and Rates

In 2011, employees in Canada paid employment insurance (EI) premiums equal to 1.78% of earnings up to a maximum of \$787 per year. (Maximum insurable earnings are \$44,200). 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 \$44,200 per year. The maximum contribution was used for employees earning more than \$44,200 per year. Estimated employee payments were about \$1.2 million in 2011.

The employer rate is applied to the employee payments. Estimated employer payments were about \$1.6 million in 2011.

## Canada Pension Plan Contributions

### Tax Base and Rates

In 2011, 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 \$48,300. The maximum annual employee contribution is \$2,218. 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 \$48,300 a year. The maximum contribution was used for employment earning more than the maximum pensionable earnings.

Estimated employer and employee contributions are about \$3.3 million each, for a total of \$6.6 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.<sup>45</sup> 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. YTZ employees paid an estimated \$1.7 million to the Workplace Safety and Insurance Board in 2011.

## 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.<sup>46</sup> 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 (\$37.50) is based on the average income of total employment (\$45,910).

Total employment of 1,610 person years at \$450 per employed person annually ( $\$37.50 \times 12$  months) equals a total contribution of \$725,000.

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<sup>45</sup> Subject to Experience Rating Adjustment for individual companies.

<sup>46</sup> Low income persons may qualify for premium assistance.

## 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, 2011**

Federal	Ontario
\$/Litre	
\$0.04	\$0.027

### Estimation Method and Results

The amount of aviation fuel sold at YTZ in 2011 was 23 million litres. The total aviation fuel tax revenues at YTZ amount to approximately \$1.6 million. Of this total, close to \$928,000 went to the Federal government and the government of Ontario collected nearly \$626,000.

A 5% 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 YTZ amount to approximately \$62,000.

## Property Taxes Collected to Government

Governments levy property taxes to help them finance local services.

Property taxes paid by the Toronto Port Authority amounted to \$68,000 in 2011.

YTZ tenants also paid municipal taxes amounting to \$1,405,000 in 2011.<sup>47</sup>

## Gross Revenue Charge and Payments-in-Lieu of Taxes

The Toronto Port Authority 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 the port authority in 2011 is as follows:

- Gross Revenue Charge: \$1,554,000
- Payments-in-Lieu of Taxes: \$1,238,701

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<sup>47</sup> 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

## YTZ Passengers, Forecasted 2012

Based on forecasted 2012 traffic, approximately 2.3 million passengers enplaned and/or deplaned at YTZ, including connecting passengers (approximately 343,000). **Table I-1** shows the passenger movements used in this study including breakdown into sectors and percentage of connecting passengers at YTZ.

**Table I-1: Passenger Movements, Forecasted 2012**

Sector	Enplaned Plus Deplaned, Forecasted 2012
Domestic	1,369,900
Transborder	587,100
Connecting	343,000
<i>Total</i>	2,300,000
Daily Average	6,301

Notes: Based on passenger traffic information provided by the Toronto Port Authority.

## 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.

The port authority charges all passengers originating their journey at YTZ 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% YTZ 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 YTZ. Total tax on airfares is estimated to be nearly \$18.0 million.

The port authority collected nearly \$15 million through the AIF in 2011. Tax revenue on this amount is \$1.9 million, with over \$730,000 and nearly \$1.2 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 YTZ was determined. It was assumed that 50% was origin traffic at YTZ. Each origin passenger pays the ATSC. A total of \$811,000 in taxes (\$421,000 GST and \$390,000 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 the port authority, net revenue from airport operating fees was over \$14 million in 2011. Total tax collected is estimated at nearly \$2 million, including \$720,000 GST and \$1.2 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 the port authority, net revenue from aircraft landing fees was nearly \$230,000 in 2011. Total tax collected is estimated at \$29,000, including \$11,000 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 the port authority parking revenues was close to \$430,000 in 2011. Tax on these expenditures is estimated at over \$55,000.

## 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 the port authority ferry vehicle fee revenues was approximately \$455,000 2011. Tax on these expenditures is estimated at close to \$59,000.

## 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 2011 was \$122.10.

**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 \$2.4 million.

HST based on accommodation costs of \$2.4 million by connecting passengers is approximately \$314,000.

## 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.<sup>48</sup>

**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.

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<sup>48</sup> *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 the port authority 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 the port authority 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.

## Appendix K: Interviewee Comments

### **Toronto Board of Trade**

#### **Carol Wilding, President & CEO**

*Billy Bishop Toronto City Airport is more than a convenient transportation link into and out of the Toronto Region; it is an economic driver vital to ensuring our economy remains globally competitive. Access to a variety of transportation services is important to facilitating economic growth and the airport will play a central role in the development of our region's growing economic clusters.*

### **City of Toronto**

#### **Michael Williams, General Manager of Economic Development**

*Toronto likes to be a business gateway into the U.S... Many large cities such as New York and London have successful city centre airports. They support the downtown core.*

### **Toronto Financial Services Alliance**

#### **Janet Ecker, President**

*While business people do the numbers, at the end of the day choices often get made based on softer considerations. Quality of life is important and ease of business is key. For example, the Billy Bishop Toronto City Airport makes it easy to travel between the major financial hubs in Chicago, New York, and Washington.*

### **Real Estate Search Corporation**

#### **Ian Dobson, CEO**

*The continued growth of the Billy Bishop Toronto City Airport has provided employers with another reason to remain and grow in the core of the City and augments the desired live/work environment essential for the city to compete in the global economy.*

### **Exhibition Place**

#### **Dianne Young, CEO**

*Billy Bishop Toronto City Airport growth increases the network of people we serve. Transportation is key to our development because our events attract people from around North America.*

### **Toronto Civic Action**

#### **Mitzie Hunter, CEO**

*Great transportation is essential to the fabric of a cosmopolitan city region; it drives talent attraction to tourism. The development of the City Airport offers choice and convenience to people and is part of our vibrant city core.*



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