

Economic Impact:

Canada's Airports in 2016



Toronto Pearson International Airport

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INTRODUCTION

Vancouver International Airport

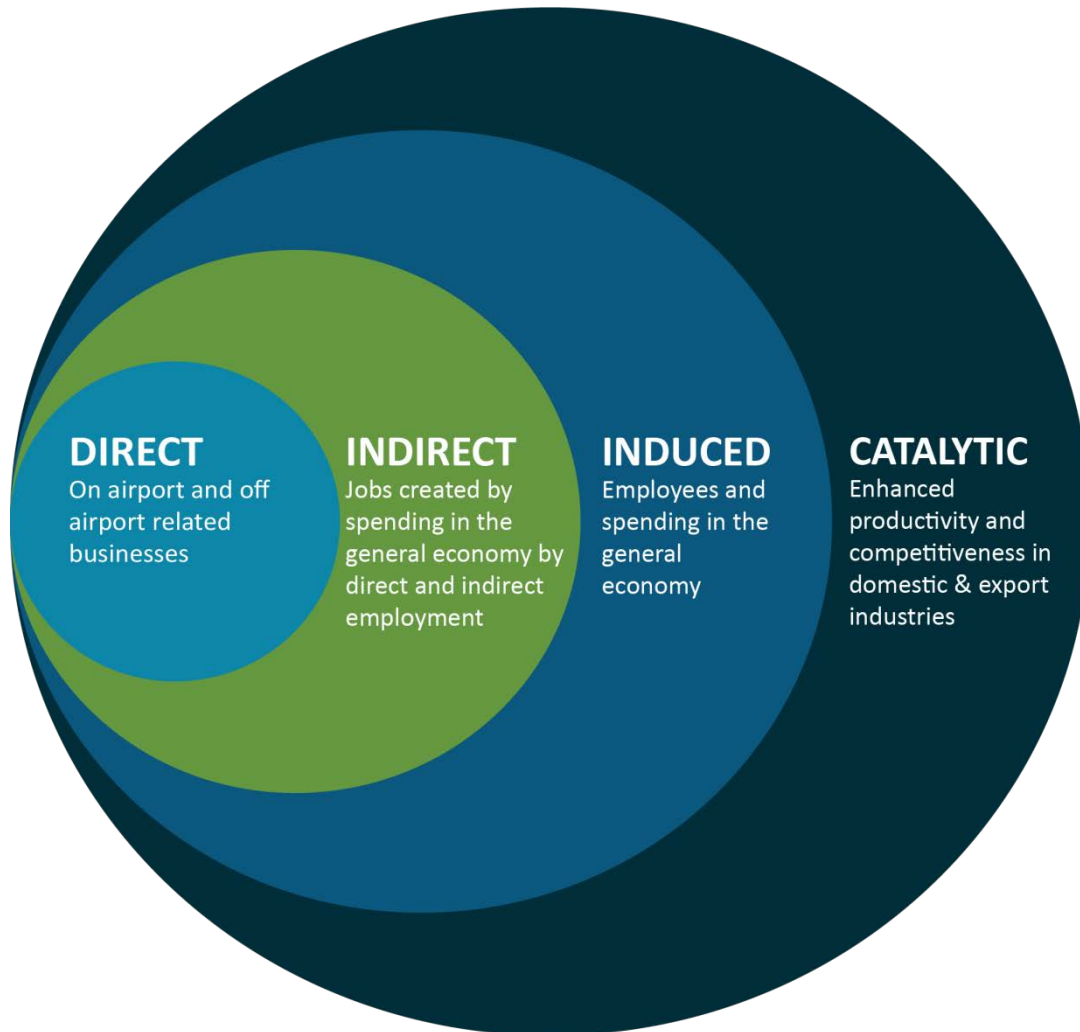
Overview of the Canadian Airports Council

- The Canadian Airports Council (CAC), a division of Airports Council International-North America, is the voice for Canada's airports. Formed in 1991, as the devolution of airports to local control was beginning, the CAC has established itself as the reliable and credible federal representative for airports on a wide range of significant issues and concerns.
- Canada's airports are engines for economic development in the communities they serve and one of their most important elements of local infrastructure. They provide communities with vital links to intra-provincial, national and international trade, and commerce. CAC's 52 members represent more than 100 Canadian airports, including all of the National Airports System (NAS) airports and most passenger service airports in every province and territory. Defined by the federal government's National Airports Policy, the 26 NAS airports link Canada from coast to coast and internationally.
- Canada's airports are collaborative world leaders in safe, high-quality, economically prosperous air transport. Working together in positive ways with industry partners and government, Canada's airports promote better knowledge about the industry and their contribution to the economy.

Study Scope: Economic Impact of Canada's Airports

- CAC commissioned InterVISTAS Consulting to conduct an economic impact study that quantitatively determines the current economic impact of the current ongoing operations of CAC member airports. Prior studies were conducted in 2013 and 2010.
- A macro economic impact study of the country's airports was conducted. Of the 100 Canadian airports represented by the CAC's 52 members, 61 airports were included in the analysis. See *Appendix A* for the list of airports. These airports handle approximately 98% of all commercial air passenger traffic in Canada.
- The analysis provides an overview of the economic impact of the current cumulative ongoing operations of CAC's member airports in terms of employment, wages, Gross Domestic Product (GDP) and economic output.
- The estimated taxation impact of the airports to all levels of government is also assessed.
- The results of the study can be used by the Canadian Airports Council to convey the economic impact of the ongoing operations of its member airports to stakeholders and the public to demonstrate their role as an economic engine, nationally.

What is Economic Impact?



- *Economic impact studies are an important tool in communicating the significance and role of Canada's airports to Canada.*
- Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project (e.g. the construction of new infrastructure), or a change in government policy or regulation.
- In this case, economic impact refers to the economic contribution associated with the ongoing operations and activities of airports in Canada located both on-airport and off-airport.

Categories of Economic Impact

- **Direct** impact includes the employment base at airports, which includes airline employees, fixed base operators, aircraft maintenance, ground handling, customer service, and airport authority staff, etc. that are employed at Canada's airports.
- **Indirect** impact involves employment in downstream industries that arise from the direct operational activities at Canada's airports. For instance, indirect employment includes the portion of employment in supplier industries that are dependent on sales to the sector, e.g. food wholesalers that supply food for catering on flights.
- **Induced** impact is generated from expenditures by individuals employed directly or indirectly by the airport. For instance, if an airline employee at one of Canada's airports decides to renovate her home, this would result in induced employment hours in the general economy as the renovation would support hours of employment in the construction industry, the construction materials industry, etc. Induced impact is often referred to as the "household-spending effect."
- **Catalytic** impact captures the way in which the airport facilitates the business of other sectors of the economy. As such, air transportation facilitates employment and economic development in the economy through a number of mechanisms: tourism effects, trade effects, investment effects and productivity effects.

Measures of Economic Impact



Employment (Full-time Equivalents or Person Years)

The number of full-time equivalents (FTEs) or person years generated by a particular source. Because certain jobs may only be part-time or seasonal, the number of jobs is generally greater than the number of FTEs.



Wages

The income (i.e. wages, salaries, bonuses, benefits and other remuneration) earned by the associated workforce.



Gross Domestic Product (GDP)

GDP is a measure of the **value added** by labour and capital used to produce final goods and services. This measure is the **net** value (i.e. cost) of intermediate goods and services used in the production of the final goods and services. GDP can thus be thought of as economic output less intermediate inputs.



Economic Output

Economic output is the **gross** dollar value of industrial output produced. Sometimes referred to as “economic activity,” it reflects the spending (i.e., capital improvement plus revenue) by firms, organizations and individuals.



CANADA'S AIRPORTS BY THE NUMBERS

Ottawa International Airport

Canada's Airports: A Thriving Sector

- In 2016, Canada's airports handled over **140 million** enplaned/deplaned passengers.
- There were **2.2 million** total flight frequencies.
- There were **6.2 million** aircraft movements.



Region of Waterloo International Airport

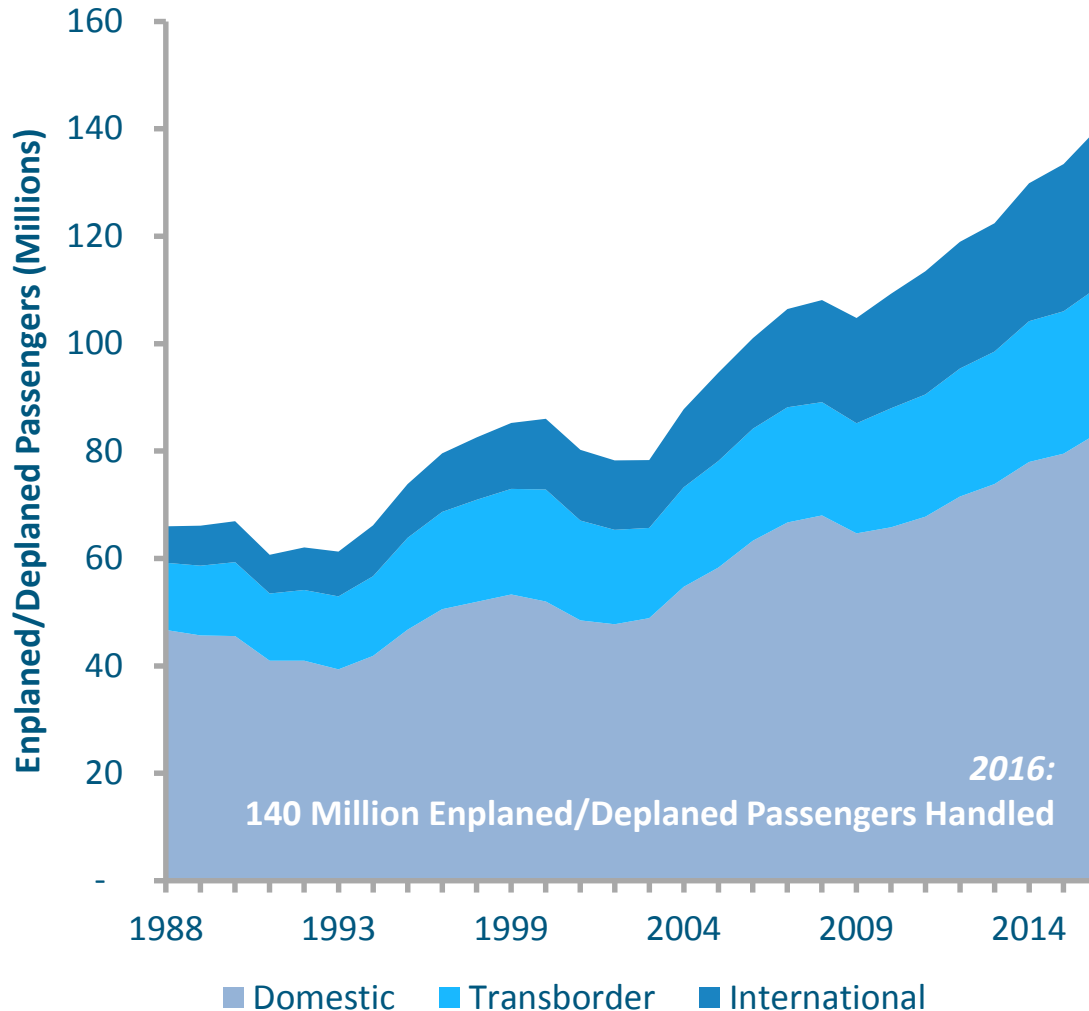


Halifax Stanfield International Airport



Kelowna International Airport

Air Passenger Traffic (1988-2016) at Canada's Airports

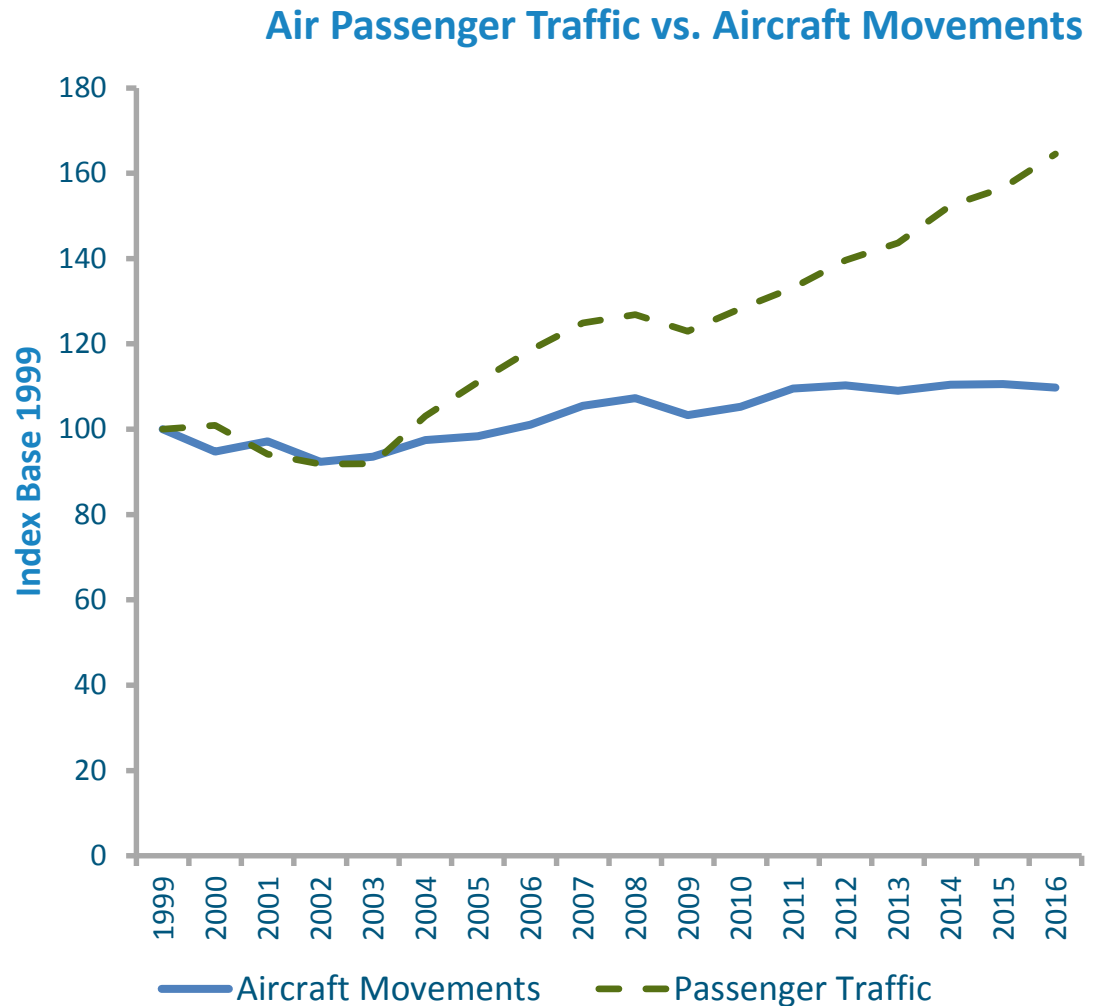


Source: Air Carrier Traffic at Canadian Airports. Statistics Canada

- Air passenger traffic in Canada has increased from **66 million** enplaned/deplaned passengers in 1988 to over **140 million** enplaned/deplaned passengers in 2016.
- Up **112%** in 28 years, or a compound annual growth rate of **3%**.

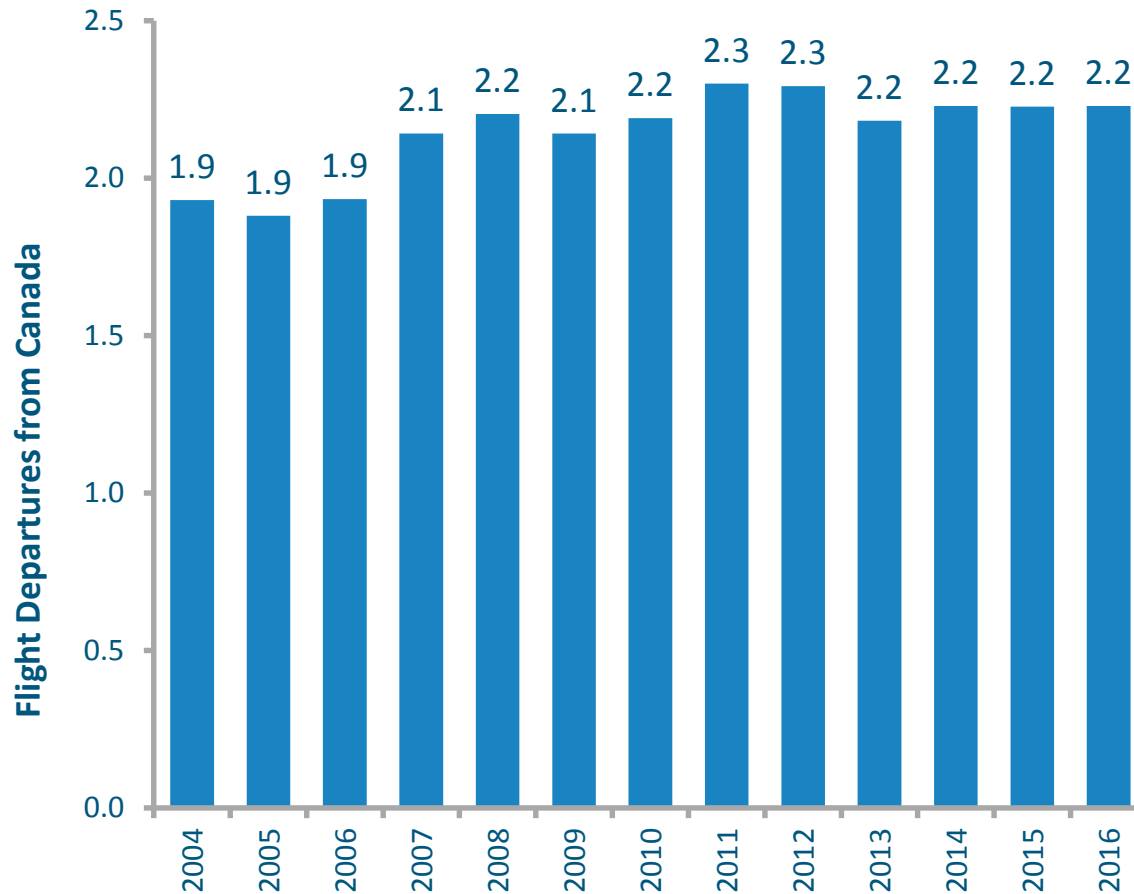
Air Passenger Traffic vs Aircraft Movements

- There has been significant growth in air passenger traffic in Canada from 1999 to 2016.
- This compares to relative stability in the total number of aircraft movements in Canada over the same time frame.
- Larger aircraft with increased seat capacity and higher load factors have contributed to growth in air passenger traffic against relatively flat volume of aircraft movements.



Source: Air Carrier Traffic at Canadian Airports. Statistics Canada

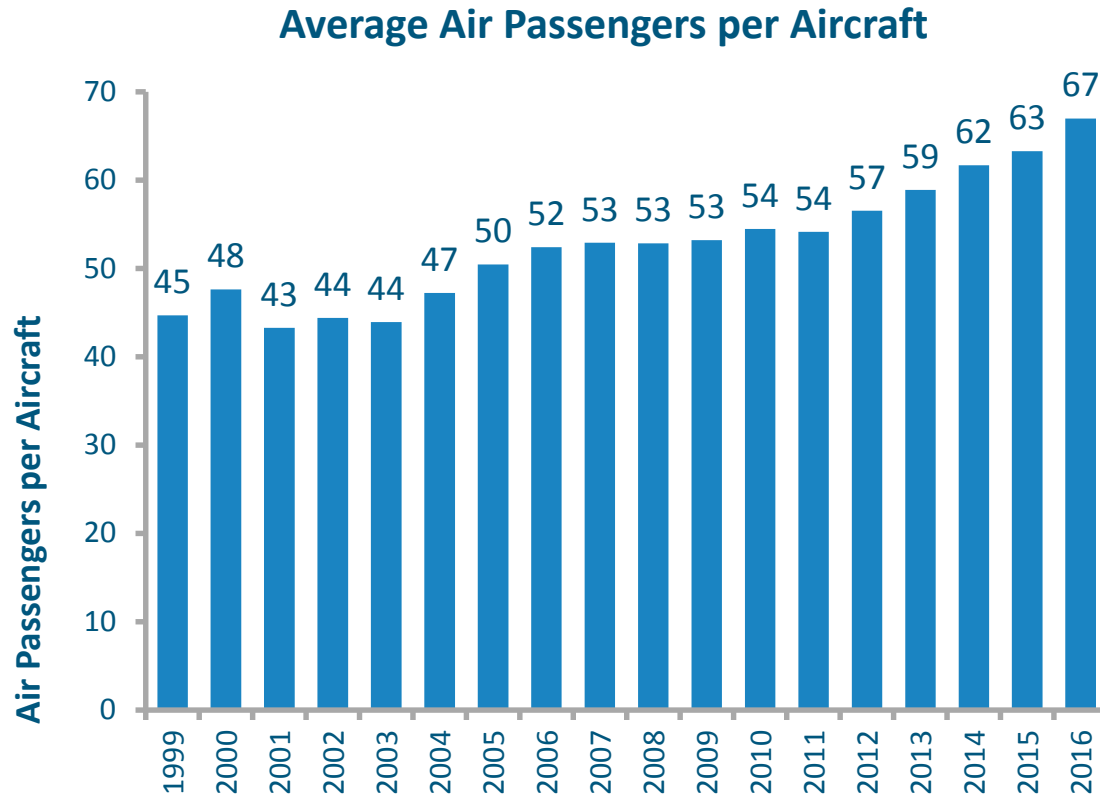
Flight Frequencies to/from Canada: 2004-2016



Source: DII/O

- The number of flight frequencies to/from Canada has held steady over the past decade, with roughly 2.2 million in 2016.

Air Passengers per Aircraft in Canada: 1999-2016

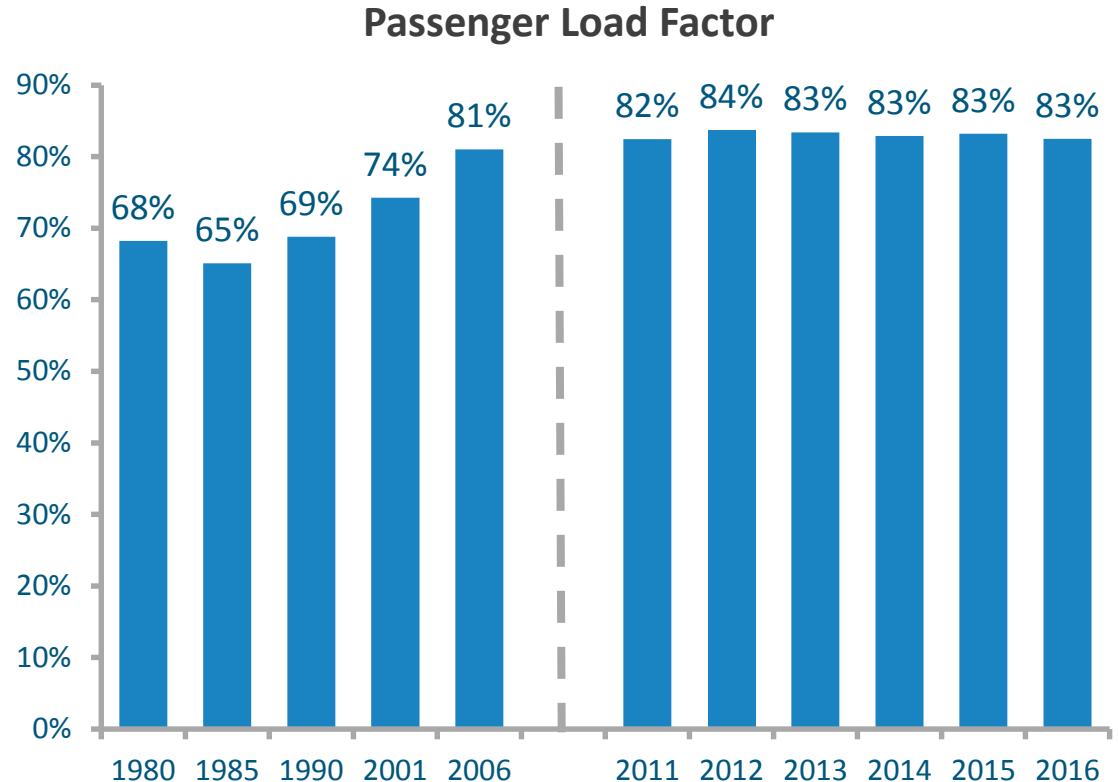


Source: InterVISTAS Calculations with data from:
Table 401-0009, Statistics Canada
Air Carrier Traffic at Canadian Airports, Statistics Canada.

- Over roughly the past two decades, the average number of air passengers per aircraft has increased from 45, in 1999 to 67 in 2016, up nearly **50%**.
- During the same time frame, aircraft movements in Canada have increased from 1.9 million in 1999 to 2.1 million in 2016, up **10%**.

Load Factors in Canada: 1980-2016

- Passenger load factors in Canada have been increasing since the 1980s.
- Over the past decade, load factors have averaged consistently over **80%**.



Source: *Aviation in Canada*, Statistics Canada. Transport Canada.

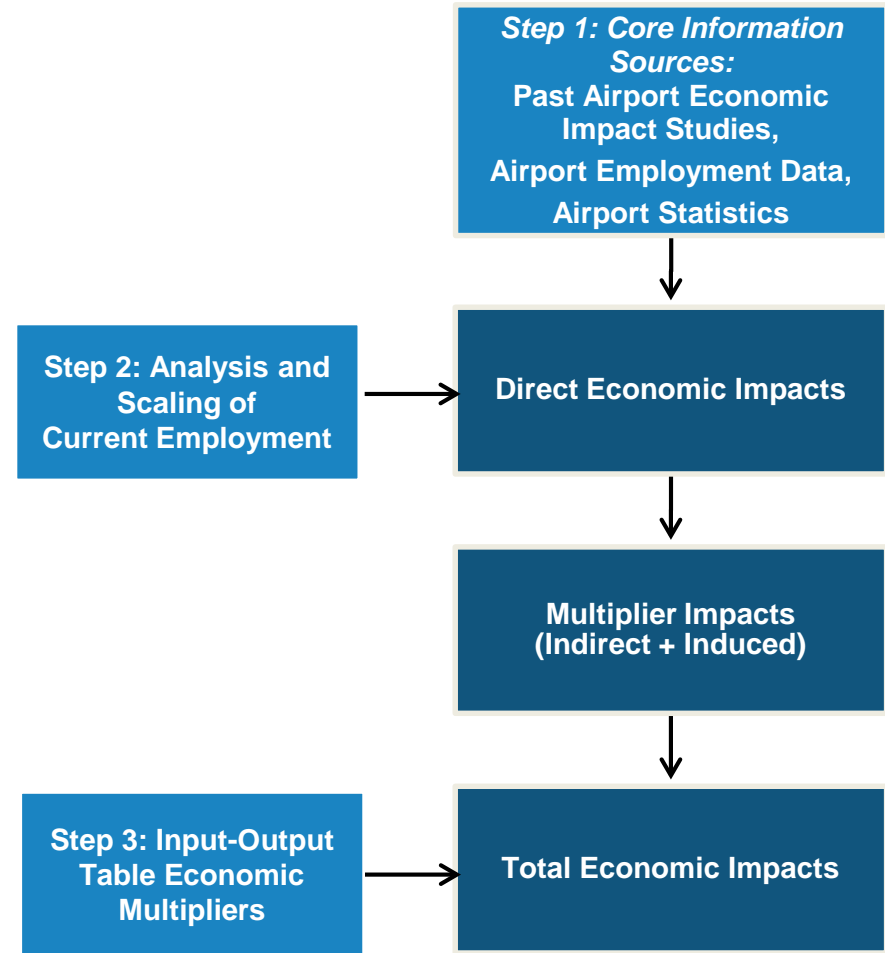
A photograph of the St. John's International Airport terminal at dusk. The building features a large, curved glass facade and a prominent, illuminated, curved roof structure supported by several tall, slender poles with cables. The sky is a deep blue, and the interior lights of the terminal are visible through the glass. The text "STUDY METHODOLOGY" is overlaid in white, bold, sans-serif font on the left side of the image.

STUDY METHODOLOGY

St. John's International Airport

Study Methodology

- InterVISTAS conducted this economic impact study during the third quarter of 2017. The study estimates the economic impact of Canada's airports for 2016.
- A data driven methodology was applied to estimate the economic impact of the **CAC's member airports**.
- Reliable and recognised data sources were used as the basis for the analysis, and established quantitative techniques were used to generate the estimates.
- Specific information sources used include past airport economic impact studies, airport employment data and airport site statistics on passenger volumes, air cargo volumes and aircraft movements.



Study Methodology

Direct Impacts

- The first step in estimating the direct impact of Canada's airports is to determine the level of employment at the member airports in 2016. This was done using data from past economic impact studies and airport statistics, as a baseline.
- Each study that was received from the airports was reviewed in detail with respect to the methodology that was undertaken to compute the economic impact. A common base for all studies was sought to ensure the boundaries of the economic impact analysis are consistent.
- After the review of past studies, the direct employment impact results for each airport were adjusted to a common year – 2016. This was done by taking into account traffic at the airports in the year of the study, and bringing the information forward using airport statistics for 2016.
- InterVISTAS estimated a relationship between airport direct employment and passenger traffic, and found a unitary elasticity (0.99) which was statistically significant. Thus, employment was scaled up from the most recent study to 2016 based on the growth in passenger traffic.

Study Methodology

Indirect and Induced Impacts

- The indirect and induced impacts were estimated using economic *multipliers and ratios*, as is common practice for economic impact studies. In addition, the *direct* wage, GDP and economic output impacts were also estimated using economic multipliers.
- The ratios and multipliers used in this study were based on the 2013 Input-Output multipliers maintained by Statistics Canada for each of the provinces and Canada nationwide. These were the most current I-O multipliers available at the time of the study. The economic ratios and multipliers have been updated to reflect current price levels, but no structural changes have been assumed.
- *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 should be aware 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 Methodology

Tax Revenue Impacts

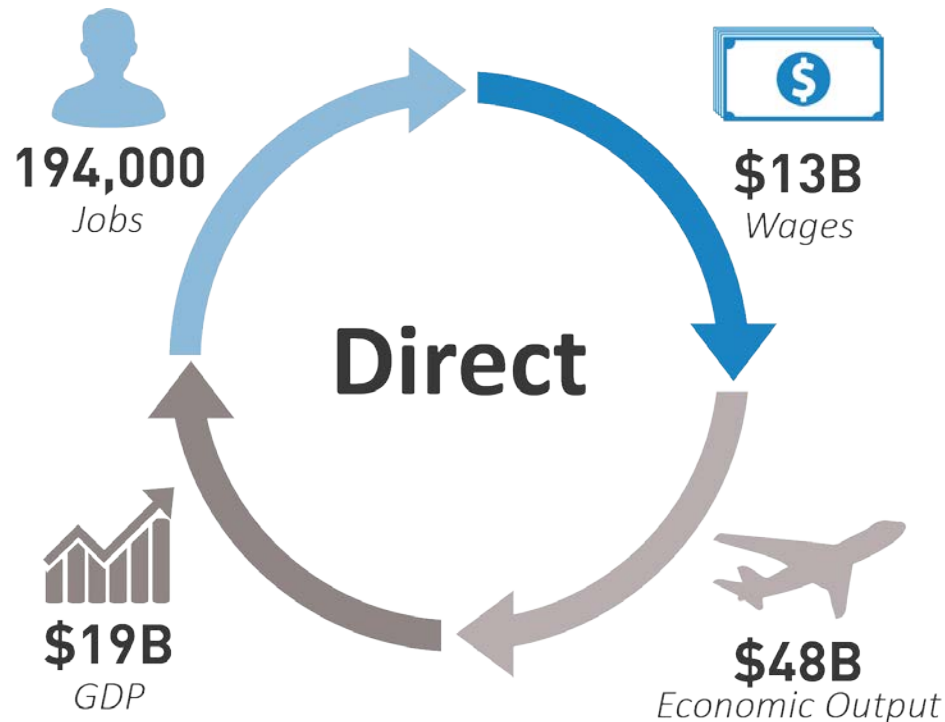
- InterVISTAS used the direct employment estimates to calculate the estimated tax impacts (government revenue) generated by the operations of Canada's airports.
- The tax revenue contributions to the federal, provincial, and municipal levels of government that are associated with airport operations are also estimated. This includes taxes paid by employers and employees (such as payroll taxes), and the airports (such as federal rent, property taxes and PILT - payments in lieu of taxes).
- Estimated tax revenues are for calendar year 2016.

A yellow Horsch snowplow is shown clearing a snowy runway at an airport. The plow is moving from left to right, leaving a clear path behind it. The background is a bright, overcast sky. The plow has "Horsch" and "EBCOM" written on its side. The runway has white lines and is wet from the snow being cleared.

ECONOMIC IMPACT OF CANADA'S AIRPORTS

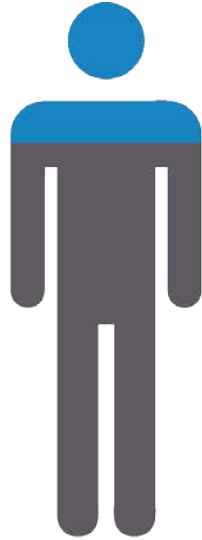
Greater Moncton Romeo LeBlanc International Airport

Direct Impact of Canada's Airports



- It is estimated that Canada's airports directly account for **194,000 jobs** in 2016, earning **\$13 billion in wages**. The list of airports is included in Appendix A.
- Furthermore, the airports directly contribute an estimated **\$19 billion** and **\$48 billion**, in GDP and economic output, respectively.

Direct Impact of Canada's Airports



21% of Canada's transportation & warehousing sector employment



26% of Canada's transportation & warehousing sector GDP

- **Relative Scale of Impacts:**

The **direct employment impacts** equate to roughly 21% of total employment in Canada's transportation and warehousing sector and 26% of the sector's GDP.

Total Impact of Canada's Airports

- Including multiplier impacts, Canada's airports support **355,000 jobs** nationwide and contribute **\$35 billion in GDP** to the national economy.

Type of Impact	Employment	Wages	GDP	Economic Output
	(Jobs)	(\$ Billions)	(\$ Billions)	(\$ Billions)
Direct	194,000	\$13	\$19	\$48
Indirect	99,000	\$6	\$10	\$20
Induced	62,000	\$3	\$6	\$11
Total Impacts	355,000	\$22	\$35	\$79

Note: Figures may not sum, due to rounding.

Source: InterVISTAS analysis using multipliers and ratios from Statistics Canada Interprovincial Input-Output Model, which is current for Year 2013.

Direct Value Impact of Canada's Airports



direct value
added (GDP)



total direct value of
Canada's airports

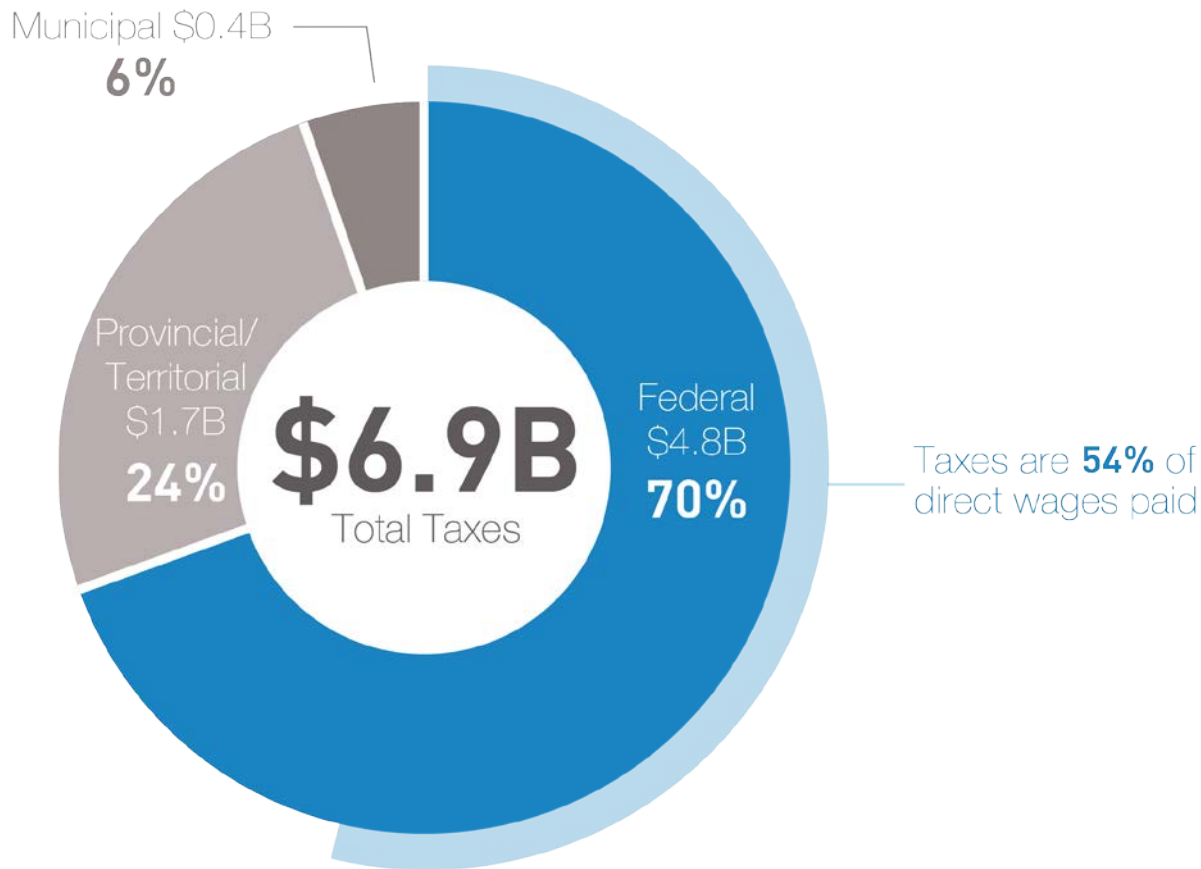
- Canada's airports directly contribute a total of \$19 billion to national GDP.
- Including indirect and induced impacts, Canada's airports contribute an estimated \$35 billion in total GDP.

Catalytic Impacts of Canada's Airports



- The connectivity provided by Canada's airports helps attract tourists, facilitates trade and investment, and contributes to the growth of the economy.
- Role of Canada's airports in air transport in facilitating other economic sectors may include:
 - *Trade competitiveness*
 - *Business productivity improvements*
 - *Enhanced supply chain performance*
 - *Sustainable small communities/regional economies*
 - *Cost reduction*
- Industries and activities that would otherwise not exist in a region can be attracted by improved air transport connectivity.

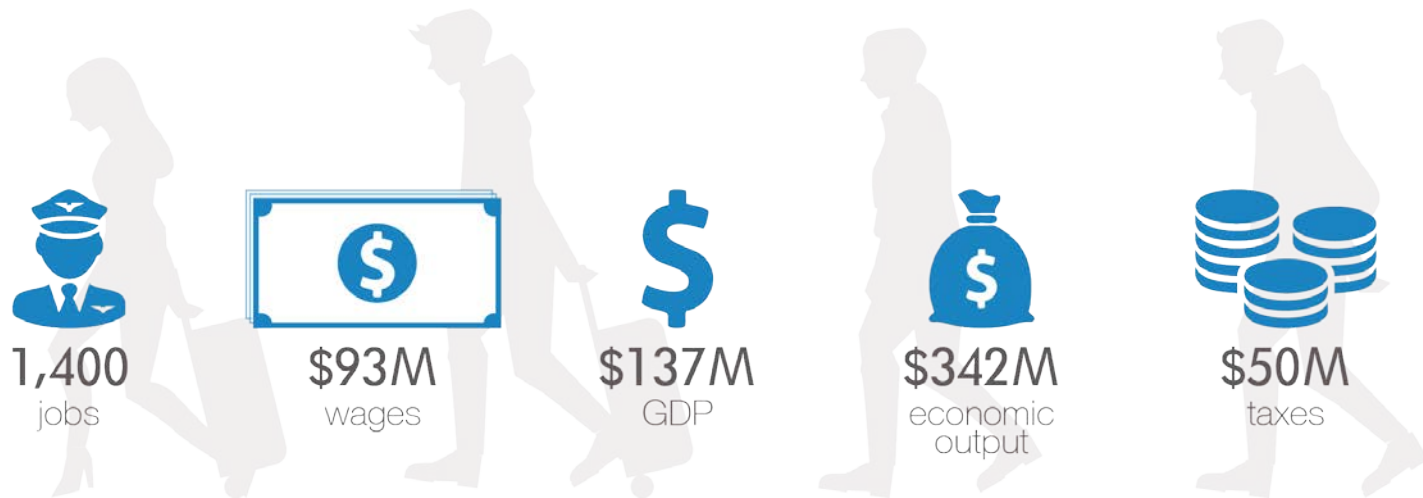
Taxation Impact of Ongoing Operations of Canada's Airports



- Canada's airports are also important generators of taxation revenues to all levels of government.
- Total taxes paid on an annual basis, by airport employers and employees, are estimated at **\$6.9 billion** in 2016.

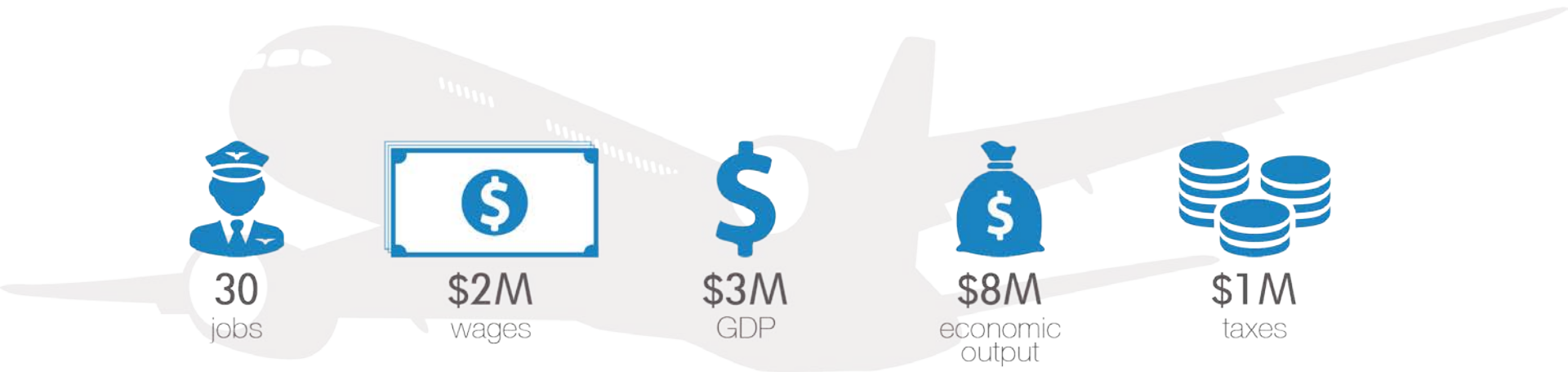
Note: Tax impact analysis is based on 2016 federal and provincial tax rates.

Direct Impact of 1 Million Air Passengers Handled



- Every 1 million air passengers moving through Canada's airports directly support **1,400 jobs** and contribute **\$137 million in GDP** in Canada and **\$50 million in taxes** to all levels of government.

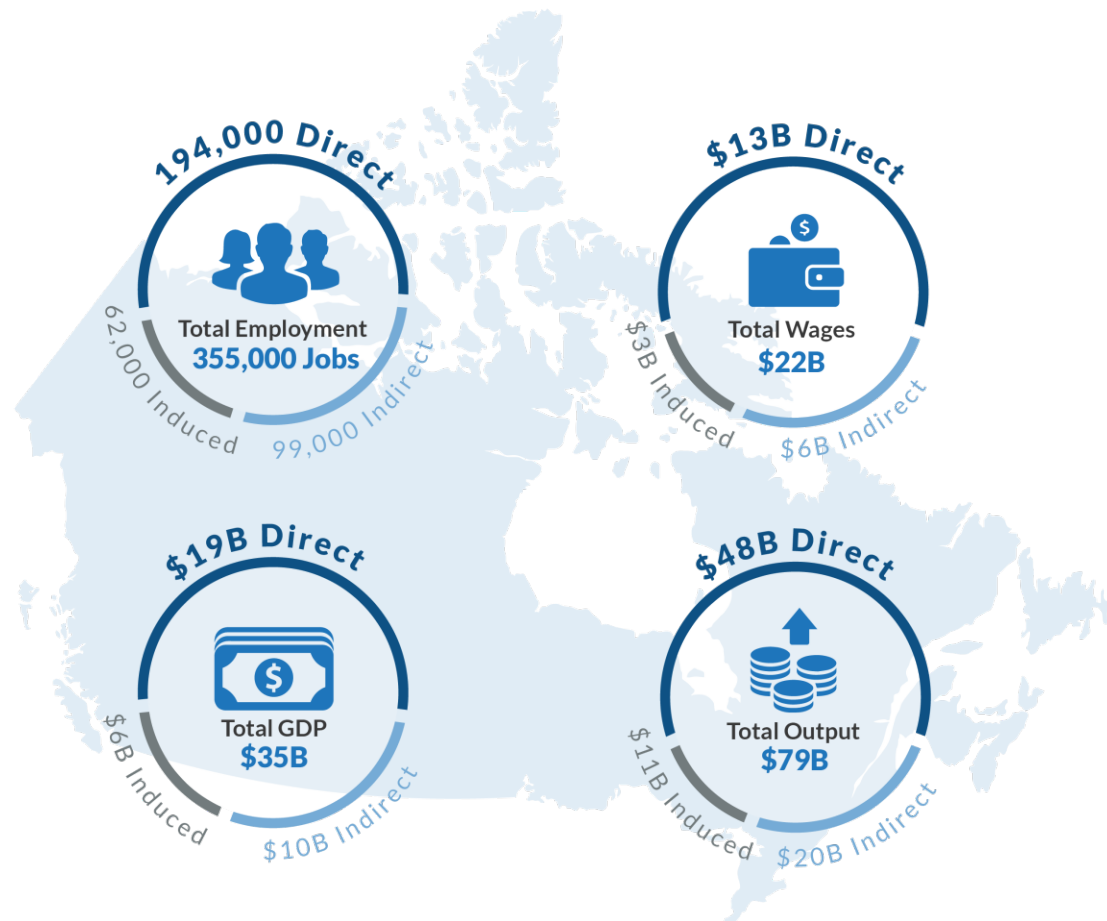
Direct Impact of 1,000 Aircraft Take-offs & Landings



- For every 1,000 aircraft take-offs and landings at Canada's airports, approximately **30 jobs** are required, generating **\$3 million in GDP** and **\$1 million in taxes** to all levels of government.

Summary Economic Impact of Canada's Airports

- A vital component to the country's transportation infrastructure, Canada's airports support **194,000 direct jobs** and generate **\$48 billion in direct economic activity**.



Summary Economic Impact of Canada's Airports

- Canada's airports are **essential** to Canada's transportation network and an important facilitator of economic development.
- Canada's airports and economic activity are closely associated, and in the context of an increasingly global market, air transport is key to **economic growth**.
- The economic impacts presented are substantial. The scope of air services currently offered at airports across the country facilitates significant impacts to the national economy. Because of these air services, Canada is able to host tourists from all over the globe, attract as many carriers to operate services, increase the overall volume of trade, and enable companies to locate or expand in Canada. The net effect of this is a bigger, faster-growing economy.

Glossary of Terms

- **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 airports, all of those people who work in an airport-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 airports, the direct, indirect, induced and total number of jobs or full-time equivalents created at the airport is examined to produce a snapshot of airport operations in Canada.

Glossary of Terms

- **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.
- **Gross Domestic Product:** (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.
- **Indirect Employment:** Indirect employment is employment which results because of direct employment. For the airports, it would include that portion of employment in supplier industries that are dependent on sales to the air transport sector related to airport operations. 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.

Glossary of Terms

- **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, induced and total effects.
- **National Airports System (NAS):** The federal government's National Airports Policy (NAP) provides a framework that clearly defines the federal government's role with airports. That role is defined through two main levels of federal involvement in airports with scheduled passenger traffic: nationally-significant airports that form a National Airports System (NAS), and regional/local airports. The NAS comprises 26 airports that link the country from coast to coast to coast and internationally. The NAS includes those airports considered essential to Canada's air transportation system, supporting both domestic prosperity and international competitiveness. (Source: Transport Canada, <https://www.tc.gc.ca/eng/programs/airports-policy-nas-1129.htm>)

Appendix A: Airports Included in the Analysis

	Airport	IATA Code	Province	Category
1	Abbotsford International Airport	YXX	BC	Regional/Local Airport
2	Billy Bishop Toronto City Airport	YTZ	ON	Regional/Local Airport
3	Calgary International Airport	YYC	AB	NAS
4	Calgary Springbank Airport	YBW	AB	Satellite airport
5	Canadian Rockies International Airport	YXC	BC	Regional/Local Airport
6	Charlottetown Airport	YYG	PE	NAS
7	Comox Valley Airport	YQQ	BC	Regional/Local Airport
8	Dawson City Airport	YDA	YT	Regional/Local Airport
9	Deer Lake Regional Airport	YDF	NL	Regional/Local Airport
10	Edmonton International Airport	YEG	AB	NAS
11	Edmonton/Villeneuve Airport	n/a	AB	Satellite airport
12	Erik Nielsen Whitehorse International Airport	YXY	YT	NAS
13	Fort McMurray International Airport	YMM	AB	Regional/Local Airport
14	Gander International Airport	YQX	NL	NAS
15	Goose Bay Airport	YYR	NL	Regional/Local Airport
16	Greater Fredericton International Airport	YFC	NB	NAS
17	Greater Moncton International Airport	YQM	NB	NAS
18	Halifax Stanfield International Airport	YHZ	NS	NAS
19	Hay River/Merlyn Carter Airport	YHY	NT	Small Airport
20	Inuvik (Mike Zubko) Airport	YEV	NT	Small Airport
21	Iqaluit Airport	YFB	NU	NAS

Appendix A: Airports Included in the Analysis

	Airport	IATA Code	Province	Category
22	John C. Munro Hamilton International Airport	YHM	ON	Regional/Local Airport
23	Kamloops Airport	YKA	BC	Regional/Local Airport
24	Kelowna International Airport	YLW	BC	NAS
25	Kingston/Norman Rogers Airport	YGK	ON	Small Airport
26	London International Airport	YXU	ON	NAS
27	McCurdy Sydney Airport	YQY	NS	Regional/Local Airport
28	Medicine Hat Airport	YXH	AB	Small Airport
29	Montréal–Mirabel International Airport	YMX	QC	NAS
30	Montréal–Pierre Elliott Trudeau International Airport	YUL	QC	NAS
31	Nanaimo Airport	YCD	BC	Regional/Local Airport
32	Norman Wells Airport	YVQ	NT	Small Airport
33	North Bay Jack Garland Airport	YYB	ON	Regional/Local Airport
34	North Peace Regional Airport	YXJ	BC	Regional/Local Airport
35	Northwest Regional Airport, Terrace-Kitimat	YXT	BC	Small Airport
36	Old Crow Airport	YOC	YT	Small Airport
37	Oshawa Executive Airport	YOO	ON	Small Airport
38	Ottawa Macdonald–Cartier International Airport	YOW	ON	NAS
39	Prince Albert (Glass Field) Airport	YPA	SK	Regional/Local Airport
40	Prince George Airport	YXS	BC	NAS
41	Prince Rupert Airport	YPR	BC	Small Airport

Appendix A: Airports Included in the Analysis

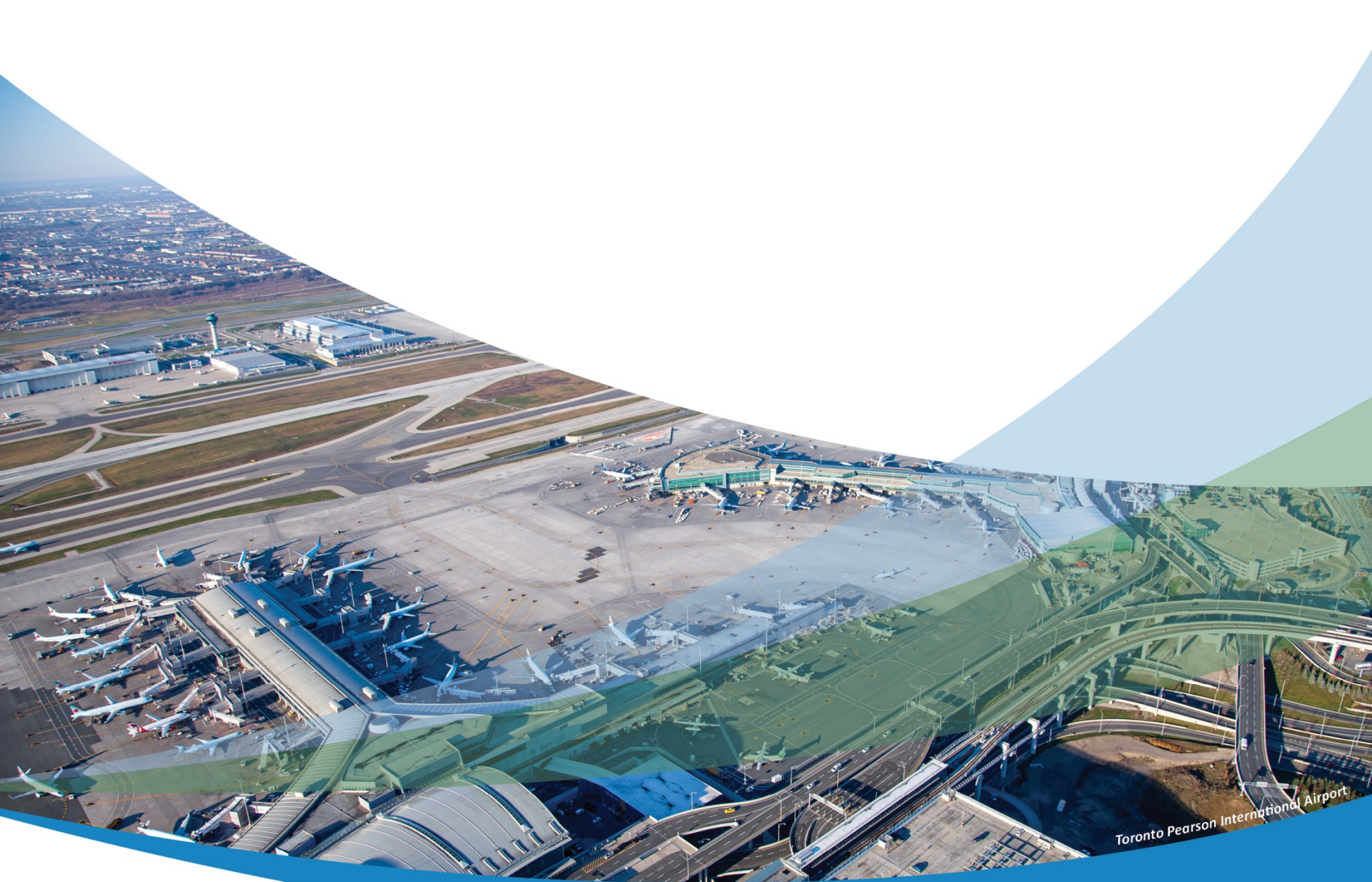
	Airport	IATA Code	Province	Category
42	Québec City Jean Lesage International Airport	YQB	QC	NAS
43	Red Deer Regional Airport	YQF	AB	Small Airport
44	Regina International Airport	YQR	SK	NAS
45	Region of Waterloo International Airport	YKF	ON	Small Airport
46	Saint John Airport	YSJ	NB	NAS
47	Saskatoon John G. Diefenbaker International Airport	YXE	SK	NAS
48	Sault Ste. Marie Airport	YAM	ON	Regional/Local Airport
49	St. John's International Airport	YYT	NL	NAS
50	Stephenville Airport	YJT	NL	Regional/Local Airport
51	Sudbury Airport	YSB	ON	Regional/Local Airport
52	Thunder Bay International Airport	YQT	ON	NAS
53	Toronto Pearson International Airport	YYZ	ON	NAS
54	Trail Airport	YZZ	BC	Small Airport
55	Tuktoyaktuk/James Gruben Airport	YUB	NT	Small Airport
56	Vancouver International Airport	YVR	BC	NAS
57	Victoria International Airport	YYJ	BC	NAS
58	Watson Lake Airport	YQH	YT	Small Airport
59	Windsor International Airport	YQG	ON	Regional/Local Airport
60	Winnipeg James A. Richardson International Airport	YWG	MB	NAS
61	Yellowknife Airport	YZF	NT	NAS

Appendix B: Breakdown of Tax Impacts Related to Ongoing Operations at Canada's Airports

SUMMARY OF TAX CONTRIBUTIONS BY CANADA'S AIRPORTS - 2016

	Federal		Provincial		Municipal		All Gov'ts
	Tax	Amount (\$ M)	Tax	Amount (\$ M)	Tax	Amount (\$ M)	Amount (\$ M)
Paid by Passengers	Air Traveller Security Charge	\$758	PST on Concession Revenue	\$71			
	GST on Air Traveller Security Charge (ATSC)	\$38					
	GST on Airport Improvement Fee (AIF)	\$66					
	GST on Concession Revenue	\$52					
	Total	\$915	Total	\$71			\$986
Paid by Employers or Employees	Personal Income Tax	\$1,810	Personal Income Tax	\$982			
	Corporate Income Tax	\$445	Corporate Income Tax	\$293			
	EI - Employer	\$233	Workplace Safety and Insurance Board	\$222			
	EI - Employee	\$166	Health Insurance	\$135			
	CPP - Employer	\$443					
	CPP- Employee	\$443					
	GST on Aeronautical Fees	\$65					
	Total	\$3,605	Total	\$1,632			\$5,237
Paid by Airports	Federal Ground Lease Payment	\$324			Property Taxes & Payments-in-Lieu of Taxes	\$439	
	Total	\$324			Total	\$439	\$763
Grand Total		\$4,844	Grand Total	\$1,702	Grand Total	\$439	\$6,986

*Note: Development charges are not included as tax impacts pertain to ongoing airport operations only and does not include the impact of capital investment.



Toronto Pearson International Airport