CANADIAN AIRPORTS COUNCIL
CONSEIL DES AÉROPORTS DU CANADA

HOLDING PATTERN

CANADA NEEDS A SWIFT RECOVERY AND COMPETITIVE AIR SECTOR

WHITEPAPER ON AVIATION RECOVERY

Executive Summary

Aviation is an important contributor to the Canadian economy, supporting thousands of jobs and the movement of people and goods both within the country and to the rest of the world. The COVID-19 pandemic continues to have a significant negative impact on Canada's aviation sector. For example, the number of passengers that moved through Canada's airports during the month of April 2021 is only at 9% of levels observed in 2019. This sharp decline in passenger traffic has had a negative impact on the operational and financial viability of Canada's airports. While major aviation countries are already on their way to recovery, Canada's border has remained closed to non-essential international travelers since March 2020.

One year into the pandemic, the number of commercial air services remains constrained and the economic benefits that Canadian airports have historically provided to their surrounding communities have virtually disappeared. While Canada's overall air connectivity – direct and indirect – was growing steadily across regions before the pandemic, many cities have been left with much reduced domestic services, and for some airports all air services have been suspended indefinitely. In the context of the user-pay system in Canada, that means that Canadian airports have stayed open to serve essential passenger and cargo flights, with generally limited revenue generation opportunities.

The impact of reduced air connectivity has been reported by many communities and businesses across Canada. Businesses of all sizes, many of which used to depend on reliable air travel options, are facing difficult recovery paths because they are simply unable to connect with their customers and suppliers in a timely manner. Many Northern, remote and near northern communities have also lost air connectivity, and this has impacted their access to medical care, education, as well as supply stocks. Direct connectivity fell more than 90% across all Canadian regions in April 2020 versus the same month in 2019. The picture for 2021 is just as dire, with direct connectivity falling even further compared to 2019.

As air travel begins to recover in the coming months, businesses looking to restart operations and make further investments will likely prefer geographies where a sustained level of air services – both domestic and international – is available. Increased air connectivity will be crucial to support companies whose customers depend on reliable air shipments (Case study: Shopify), regions that are seeking to attract and retain skilled professionals from across Canada and the world (Case study: PEI BioAlliance), remote communities that require air services to access critical medical care and stock resupply (Case study: Northern and Remote Communities), SMEs eager to enter new foreign markets (Case study: BC Seafood Sector), and provinces seeking to attract a greater number of international tourists (Case study: Tourism in Alberta).

At this point, it is impossible to estimate with accuracy the full extent of price increases that could potentially occur during recovery given the increasing costs faced by airlines, airports, and other service providers in the air transportation supply chain. What we know is that passenger demand responds to price, and demand depends not only on the airline base fare, but also other components that make up the final total price paid by the passenger. Most importantly, some increased costs faced by the aviation sector due to the ongoing financial challenges resulting from COVID-19 could potentially be passed through to travelers. According to our analysis, if increased costs for the aviation supply were to lead to an increase in airfares of 25%, that would suppress 20% of passenger traffic (demand). Based on passenger traffic at Canadian airports in 2019, the expected loss in passenger demand would equate to roughly 16 million passengers, it is roughly three airports the size of Ottawa.

Although our analysis looked at passenger traffic as a whole, experience shows there is a difference in price sensitivity among passenger segments. Historically, business travellers have been less price sensitive compared to the average leisure traveller. For the business traveller, frequency and routing are key in determining their flight choices. For the leisure traveller, price is the most important consideration.

The financial position and resulting cost-saving measures adopted by Canada's aviation sector during the pandemic – e.g., fleet retirements – are likely to have an impact on the competitive landscape, especially given many foreign carriers have been able to maintain more flying capacity through the pandemic. While Canadian airlines can procure additional fleet in the future as passenger demand returns, the process of acquiring additional aircraft will likely take time, potentially missing an opportunity to capture any future increases in air travel demand. This means that some markets will have a slower recovery as there may not be enough aircraft to provide air services at pre-pandemic levels. The longer the recovery, the more difficult it will be for Canada's airlines to compete in the same international aviation markets also served by foreign carriers, who may have a financial advantage over Canadian airlines due to government support these airlines may have received throughout the pandemic. While there is potential for regional carriers to enter some domestic markets, this is unlikely to cover all lost connectivity during the pandemic, at least in the short term.

In the coming years, Canada's overall competitiveness in the new global economy could be supported by a dynamic aviation sector that connects local industries and businesses of all sizes to their customers in foreign markets, while also creating jobs and attracting tourism at home. But the road to recovery needs to start as soon as practicable. Recapturing some of the lost air connectivity will be crucial to support economic growth and job creation in communities across Canada's regions. Major Canadian hubs need to attract direct international air services through incentives and passenger-friendly processes. Canadian airlines should continue to focus on expanding their domestic and transborder networks. As most major aviation markets have already decided to help position their air carriers in the post-pandemic global competitive landscape, some level of financial support will be necessary for Canada's aviation sector in order to remain competitive vis-à-vis its competitors in foreign markets. The biggest risk for Canada is that accessing destinations could be more difficult or more expensive for both passengers and cargo.

contents

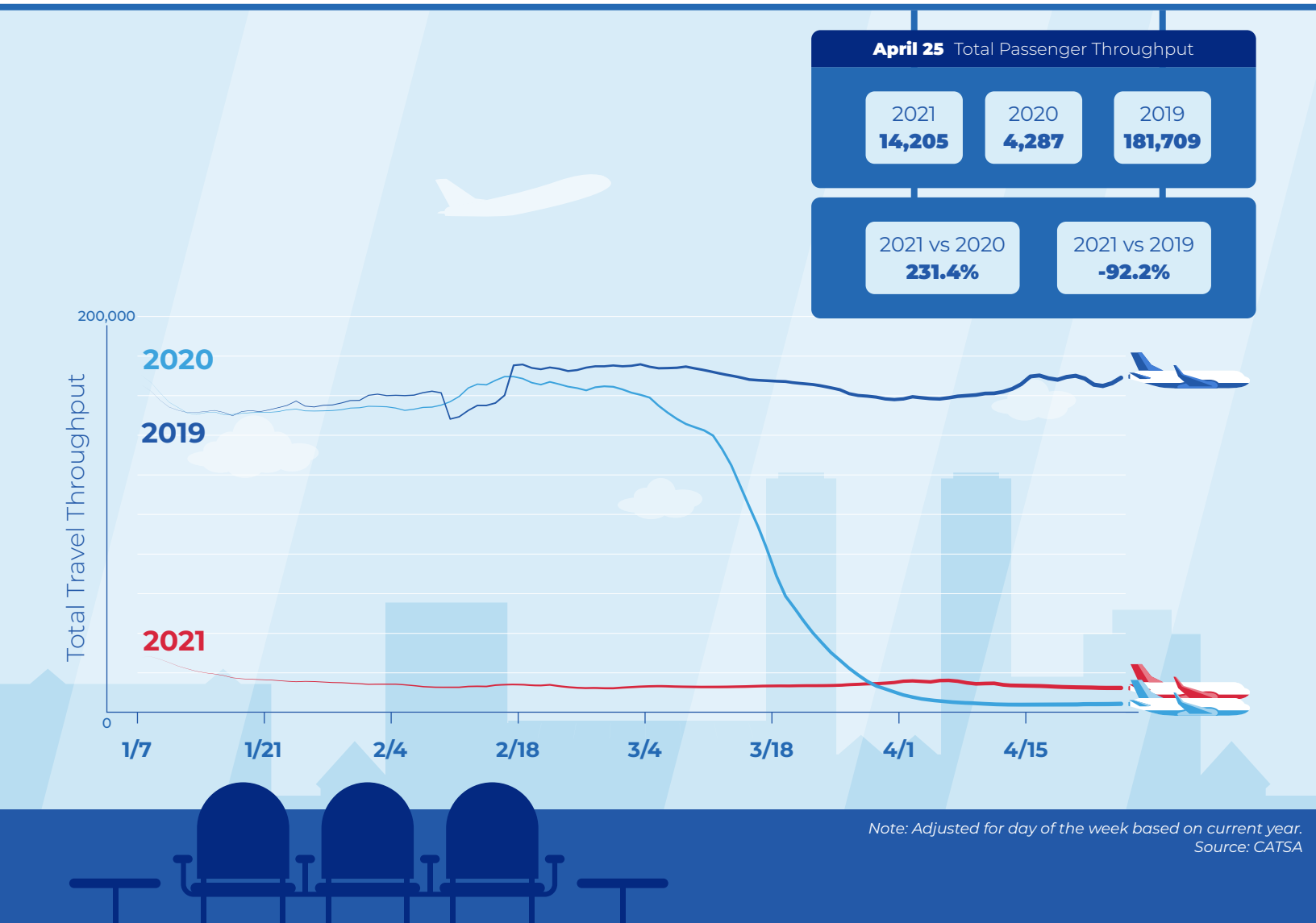
01

The Impacts of COVID-19 on Air Travel Demand in Canada

One Year Later: Severely Constrained Supply and Demand

Beyond the reported financial impact of COVID-19 on the global air travel industry and ongoing debates around the introduction of digital travel solutions, the drastic decline of passenger levels observed throughout 2020 and 2021 has decimated Canada's aviation sector, likely creating long-lasting effects on the way Canadians travel and the type of services offered by airports and airlines across the country.

Air travel in Canada – measured in terms of passenger traffic and airline capacity – has fallen dramatically since the beginning of the pandemic in March 2020. Current data available from the Canadian Air Transport Security Authority (CATSA) shows that the number of passengers that moved through Canada's airports is roughly 9% of 2019 levels. This negative trend has had a tremendous impact on the operational and financial viability of Canada's airports, with numerous job losses in the sector, and ongoing financial challenges, especially for airports dependent on high levels of passenger traffic.

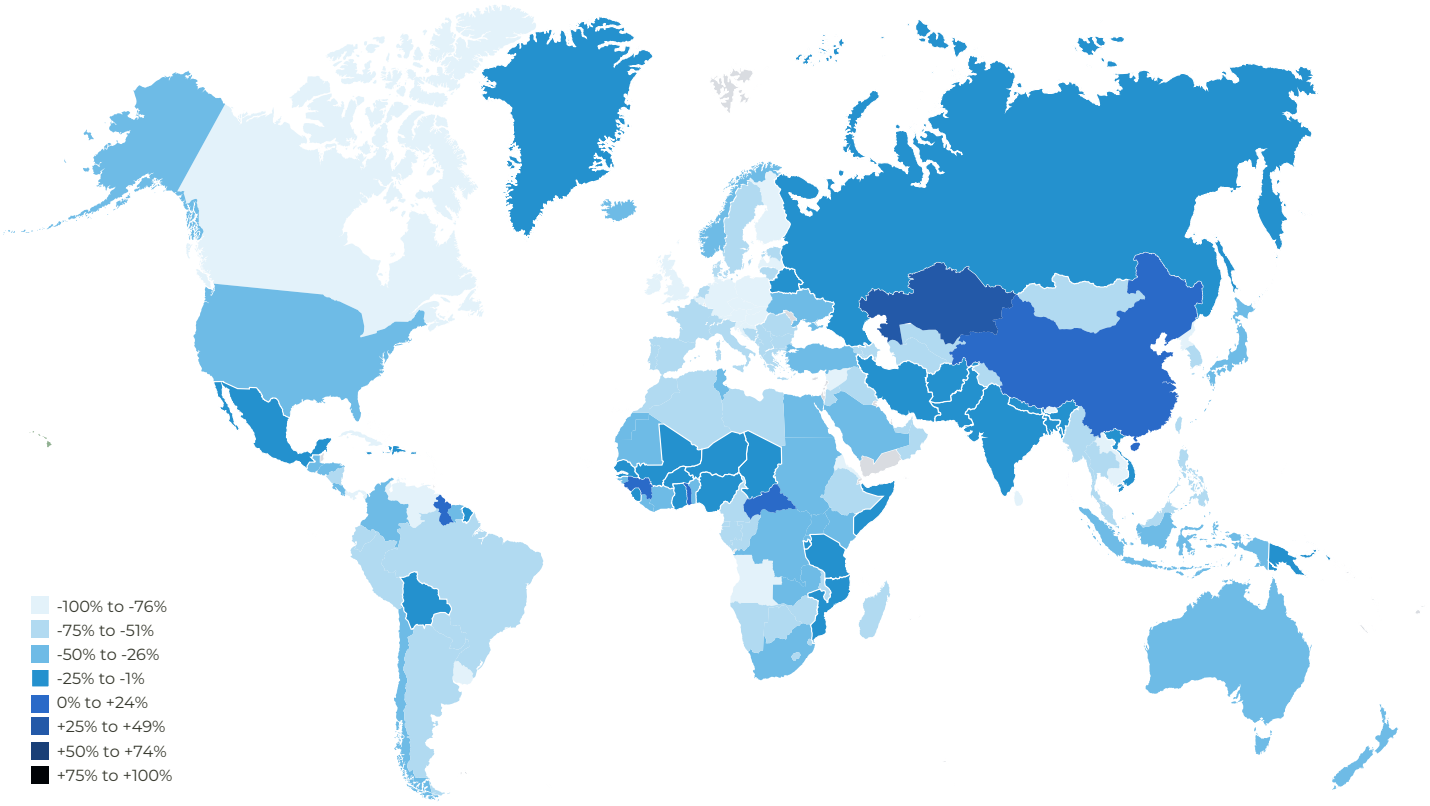


Note: Adjusted for day of the week based on current year.
Source: CATSA

The loss in passenger traffic has resulted in sharp reductions in overall airline capacity – measured by the number of seats available – at Canadian airports, some of which have lost all commercial air services during the pandemic (e.g., Toronto Billy Bishop Airport, Saint John Airport, Sydney Airport (Nova Scotia), and Prince Rupert Airport, among others). The loss of air services at these airports was triggered by various factors, including airline contraction due to financial constraints, the introduction of regional bubbles, the implementation of prohibitive entry requirements and 14-day quarantines, as well as a general lack of demand for air travel as Canadians were asked by public health authorities to limit travel to essential purposes only.

One year into the pandemic, as the number of commercial air services remains constrained, the economic and social benefits that Canadian airports have historically provided to their communities have virtually disappeared. Medium-size airports such as Winnipeg and Regina have also been impacted, losing almost 80% of airline capacity and all direct international services.[1] The following figure shows how Canada currently compares to the world in terms of airline capacity recovery. While in April of 2019 Canada ranked 16th in the world in terms of airline seat capacity,[2] Canada has now fallen to 23rd in the world (with capacity down roughly 80%).

April 2021 vs 2019 Seats



Source: Inter*VISTAS* Analysis of Diio by Cirium Data

[1] Based on capacity in April 2019 versus April 2021. Source: Diio by Cirium Data.
[2] Based on departing seats

Possible Paths for Air Travel Recovery

The ability of Canada's air transport sector to recover swiftly from the pandemic depends on several factors. Inter*VISTAS* Consulting Inc. has developed a number of forecasts based on different recovery paths for air passenger levels in Canada. These forecasts vary depending on whether vaccination programs are successful, the (potential) resumption of international travel to/from Canada, and the time needed for airlines to add capacity to markets across the country. Based on the latest forecast scenarios from Inter*VISTAS*, passenger traffic in Canada is not expected to reach 2019-levels until early 2024 in the most optimistic scenario, and until 2025 and beyond in some of the most pessimistic scenarios.

> **To get Canadians flying again and to bring back jobs we need a clear plan for the economic restart. We look to the federal government to outline the conditions needed to allow people to travel freely particularly as more and more countries make clear what their plans are. We cannot be left behind.**
>
> **GOLDY HYDER**
> *President and Chief Executive Officer, Business Council of Canada*

Air transportation is an important industry in Canada, and a catalyst for other industries such as tourism. The sector currently accounts for 256,000 direct jobs and contributed $23.4 billion in direct Gross Domestic Product (GDP).[3] Operations at Canada's airports account for 194,000 direct jobs across a variety of employers, supporting $13 billion in wages, and contributed $19 billion in GDP.[4] In addition to those impacts, air transportation is an important facilitator of trade and tourism, with spin-off benefits in those industries. While recovery is expected to occur in the coming months, there will likely be varying levels of indirect (and unintentional) impacts on supply and demand, especially if Canada continues to lag behind other countries in terms of setting a clear path towards recovery and the reopening of borders to international travelers. More importantly, the competitiveness of Canada's businesses, which rely on a consistent level of air services, could be at risk. Measures taken by the federal government—including policy changes that facilitate travel recovery and future growth—will directly impact whether Canada's aviation sector can quickly return to its pre-pandemic competitive position.

The economic impact of reduced air connectivity across Canada has been reported by many communities and businesses, who are also facing continuous increases in the overall cost of air travel. Businesses of all sizes, many of which rely on reliable air travel options, are facing difficult recovery paths because they are simply unable to connect with customers in a timely manner. Some of them have had their supply chains severely impacted by the decrease in cargo capacity. Communities that depend on tourism spending to support local jobs and small businesses have been waiting for the resumption of air travel in order to attract tourists – both domestic and international – back to their region. Northern and remote communities have lost crucial air connectivity, and this has impacted their access to medical care and education, as well as supply stocks and seasonal tourism.

---

[3] Air Transport Action Group (2020) "Aviation: Benefits Beyond Borders" https://aviationbenefits.org/downloads/aviation-benefits-beyond-borders-2020/
[4] Based on 2016 data. Canadian Airports Council (2017). Economic Impact: Canada's Airports in 2016. https://canadasairports.ca/wp-content/uploads/2020/08/1.-CAC-Airports-Collection-of-Economic-Impact-Reports-1.pdf

Outline

This Whitepaper will review the effects of decreased air connectivity on Canadian communities and businesses across regions, as documented and observed since the beginning of the pandemic. Considering that Canada still lags behind most aviation markets in terms of industry recovery and lacks a clear path towards border reopening, this Whitepaper will also explore the following question: what is likely to happen to the price of air travel as air travel demand recovers in the following months? Finally, this Whitepaper will provide a long-term vision for industry recovery, focusing on the areas that are likely to generate a sustainable competitive advantage for Canada's aviation sector and Canada's overall competitiveness in a post-pandemic world.

CASE STUDY #1

E-commerce: Shopify

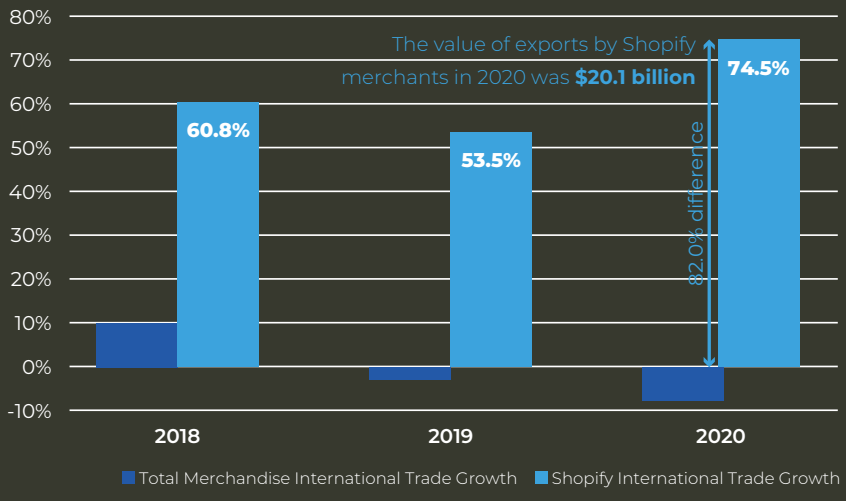
Shopify is an Ottawa-based company and the largest publicly-traded Canadian company by market capitalization. Through R&D investments, Shopify contributes to the advancement of Canada's evolution towards digital, high-value-added services. The company offers a subscription-based, multi-channel, e-commerce software that is used by merchants (small, medium, large) to run their business across all their sales channels, including the web, mobile storefronts, physical retail locations, social media storefronts, marketplaces, and brick-and-mortar and pop-up shops.

Drivers of Growth, Financial Performance and Market Positioning

Shopify has expanded considerably in recent years mainly due to the boom in e-commerce that has attracted many small businesses to market their products online, and more recently during the ongoing COVID-19 pandemic as more businesses (including large global companies) were forced to broaden their online presence. As an example, revenue for the twelve months ending March 31, 2021 was $3.4B USD, a reported 99.6% increase year-over-year. Shopify also held 8.6% of the U.S. retail e-commerce market in 2020, ahead of global giants such as Walmart, eBay, Apple, and Target. As of 2021, Shopify reports that over 1,700,000 businesses in 175 countries around the world have made over $200B USD in sales using their platform. These are some of the global retailer brands that currently use Shopify: KKW Beauty, Kylie Cosmetics, Gymshark, Fitbit, Penguin Books, Whole Foods Market, Kraft and Heinz, and Tesla.

AGAINST GLOBAL HEADWINDS, SHOPIFY ENABLES EXPORTS

Total international trade and international trade by Shopify merchants, annual percent change



Source: World Trade Organization; Shopify; Deloitte Analysis

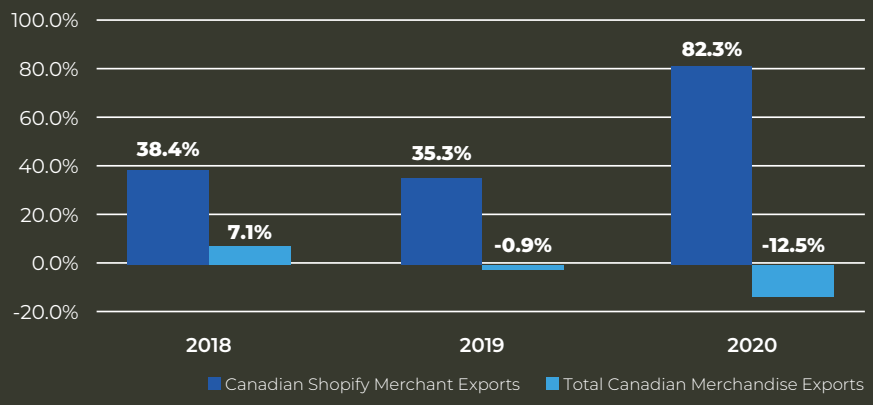
Air Connectivity

Considering that approximately 40-45% of global international air freight consist of belly cargo in passenger operations, reliable and continuous air connectivity is important to Shopify's subscribers. The surge of e-commerce will likely continue in the coming years, and Shopify is well-positioned to support that positive trend. For instance, in 2020, while total merchandise international trade growth was negative, Shopify international trade growth was estimated at 74.5%.

International Trade and Air Cargo
Canadian Shopify merchant exports outpaced export growth by 94.8% in 2020. In the coming years, air cargo – either freighter or belly cargo – remains an important vehicle to support the success of multiple industries and businesses, including Canadian companies of all sizes.

IN 2020, CANADIAN MERCHANTS OUTPACED EXPORT GROWTH BY 94.8%

Annual percent change in exports



Source: Shopify; Deloitte Analysis; World Trade Organization

Any future shortages of belly cargo or freighter can disrupt the growth of Canadian SMEs that rely on air shipments to reach their newly found customers, ultimately compromising hundreds of jobs. Shortages can also drive prices up for Canadian business, thus affecting their ability to compete in regional and international markets.

Shopify's merchants and therefore by extension Shopify would benefit from a more competitive market for air cargo services that would both lower costs and decrease shipping times. Speed and costs are a major concern for Canadian merchants when it comes to shipping. For example, shipping an item from Toronto to Vancouver may cost double what it does from New York to Los Angeles, which negatively impacts both consumers and merchants.

A unique challenge facing many direct to customer (D2C) Canadian merchants is that they need to ship to Canada and the U.S. This means having potentially two fulfilment centers and dealing with several shipping companies. From a logistics perspective, it's a more complex and costly operation than how an equivalent U.S.-based merchants might operate to reach the same degree of sales.

02

Air Connectivity in Canada

What Does Air Connectivity Mean?

In its simplest form, air connectivity can be defined as a flight that connects two destinations. The International Civil Aviation Organization (ICAO) has defined air connectivity as the ability of a network to move passengers from their origin to their destination.[5] But air connectivity can be measured in a variety of ways. For instance, the flight between two destination points (the origin and destination) does not need to be direct to be considered connected. In other words, there can be connection points in between the two destination points, as long as passengers can travel from their origin to their ultimate destination. However, people tend to prefer the fastest most direct route when it comes to air travel, and so direct connectivity is generally given more weight than indirect connectivity.

As there are different ways to define what connectivity means, there are also different ways to measure it. Some measure connectivity based on the number of destinations served by direct non-stop air services, while others have developed more complex methodologies, which consider various factors such as the types of connections, the level of economic activity associated with the destination country or population size, and the costs associated with air travel.

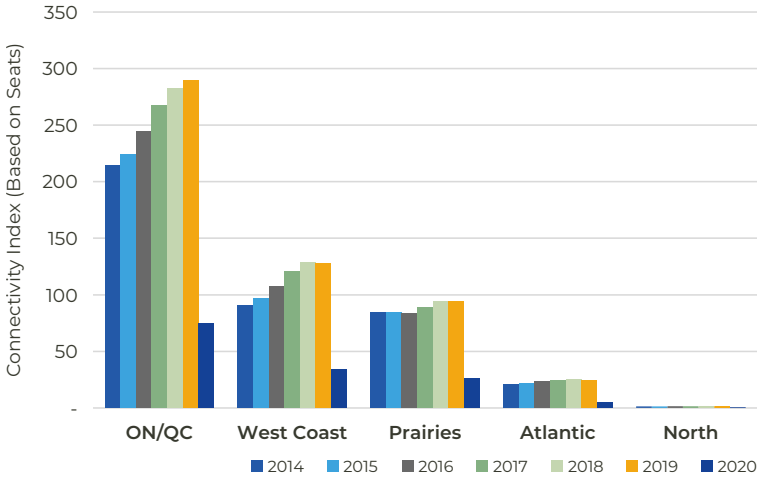
Our Methodology

The analysis shown in the following sections is based on a methodology that measures both direct and indirect connectivity separately. Canada's direct connectivity is measured by calculating the number of direct seats available from Canada's airports, and weighting that by the level of importance of those destinations. For example, the direct connection between Vancouver and Toronto is given a larger weight than the direct connection between Vancouver and Winnipeg. This is because there are more direct destinations that can be reached from Toronto than Winnipeg. Canada's indirect connectivity is measured based on the number of probable itineraries using the LIFTPlan® airline network modelling tool.

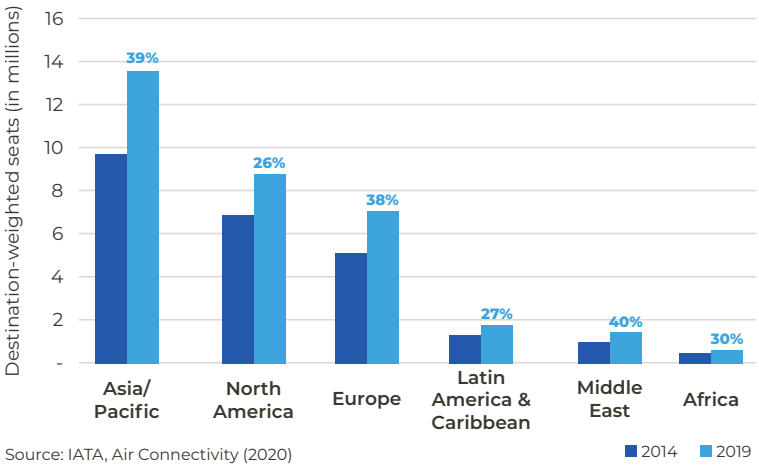
[5] ICAO (2013), Worldwide Air Transport Conference (ATConf/6-WP/20).

Air Connectivity in Canada Before COVID-19

Canada's direct connectivity pre-COVID-19 was increasing across all regions in the country. Between 2014 and 2019, the connectivity index in each region in Canada increased continuously, though the largest increases were observed in Ontario, Quebec, and the West Coast (British Columbia). These results are not surprising considering that the three largest airports in Canada (based on annual passengers) are located in these regions. As connectivity was growing across the country, a greater number of Canadians, regardless of their origin, were able to directly access more destinations by air, both domestically and internationally. And by being able to directly access more destinations, Canadian airports, and the communities they serve, were able to generate the various economic benefits associated with air transportation. The continuous increase in direct access also improves the number of indirect connections available for Canadians by providing indirect access to other nodes within the destination's network.



Source: Inter*VISTAS* Analysis using Diio by Cirium Data



Source: IATA, Air Connectivity (2020)

The positive trend observed in Canada regarding levels of air connectivity before the pandemic is similar to trends identified elsewhere. According to data released by the International Air Transport Association (IATA), every region in the world was experiencing a growth in the number of direct connections in 2019. The number of direct city pairs was steadily increasing while the price of air travel was, in real terms, decreasing.

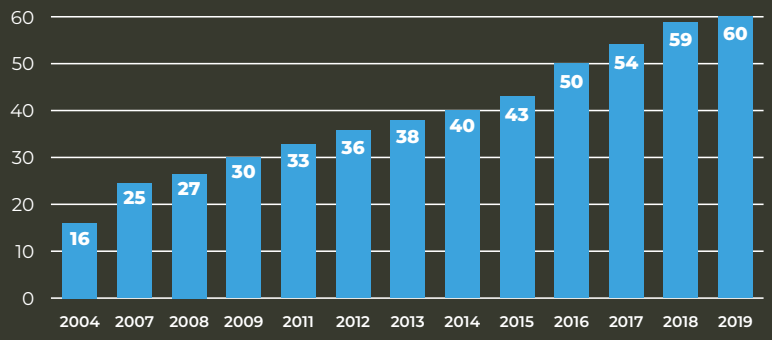
Before the COVID-19 outbreak, Canada and many other countries around the world were already capturing the economic benefits associated with air travel on trade, business, and social connections. The aviation industry was growing as more routes were being added to airline networks, new airlines and business models were emerging, and capital investments were injected in airport infrastructure.

CASE STUDY #2

Biotech Cluster in PEI

The PEI BioAlliance is a private sector-led not-for-profit organization responsible for developing the growth strategy of the Prince Edward Island Bioscience Cluster, which includes 60 bioscience companies, 7 research organizations, and employs over 2,200 Canadian and internationally-educated professionals in the fields of scientific research, quality assurance and control, production, engineering, and business administration. The Cluster is home to *Natural Products Canada*, a national network that invests in companies with products and technologies based on natural product chemistry, and Emergence, Atlantic Canada's bioscience business incubator.

PEI BIOCLUSTER COMPANY GROWTH (2005-2020)



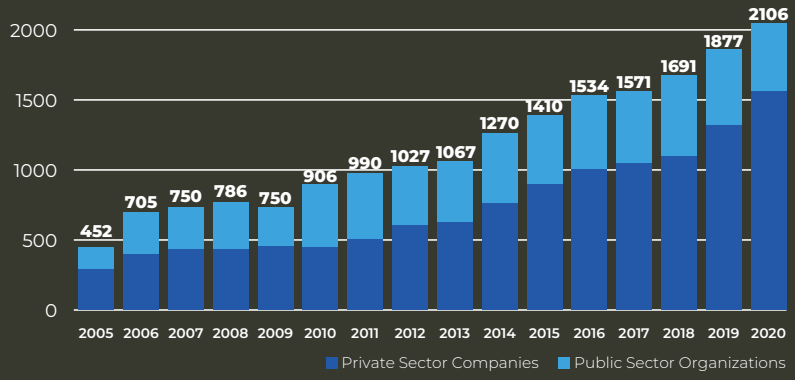
Source: PEI BioAlliance, 2020 Strategic Plan

Key challenges identified by the PEI BioAlliance for the successful evolution of the Cluster include the ability to attract and retain specialized and/or skilled professionals from across Canada and the world. Additionally, the PEI Cluster must attract technologies and investment from other jurisdictions as part of its growth strategy in coming years. Finally, it has been observed that limited transportation links can result in higher logistic costs for businesses exporting to international markets.

These challenges are intimately and inevitably linked to PEI's air connectivity within Canada and with target markets in the U.S., Europe, and Asia. The possible shift towards 2-stop and/or 3-stop travel journeys from/to Charlottetown is likely to slow down future progress on the challenges identified above.

Going forward, the needed requirements in terms of air connectivity include better access to international destinations for local businesses by having more frequent connections to/from Charlottetown, PEI, including through Canadian hubs. This will positively affect key business issues such as access to capital, talent recruitment, new business attraction, as well as export market development and customer relations.

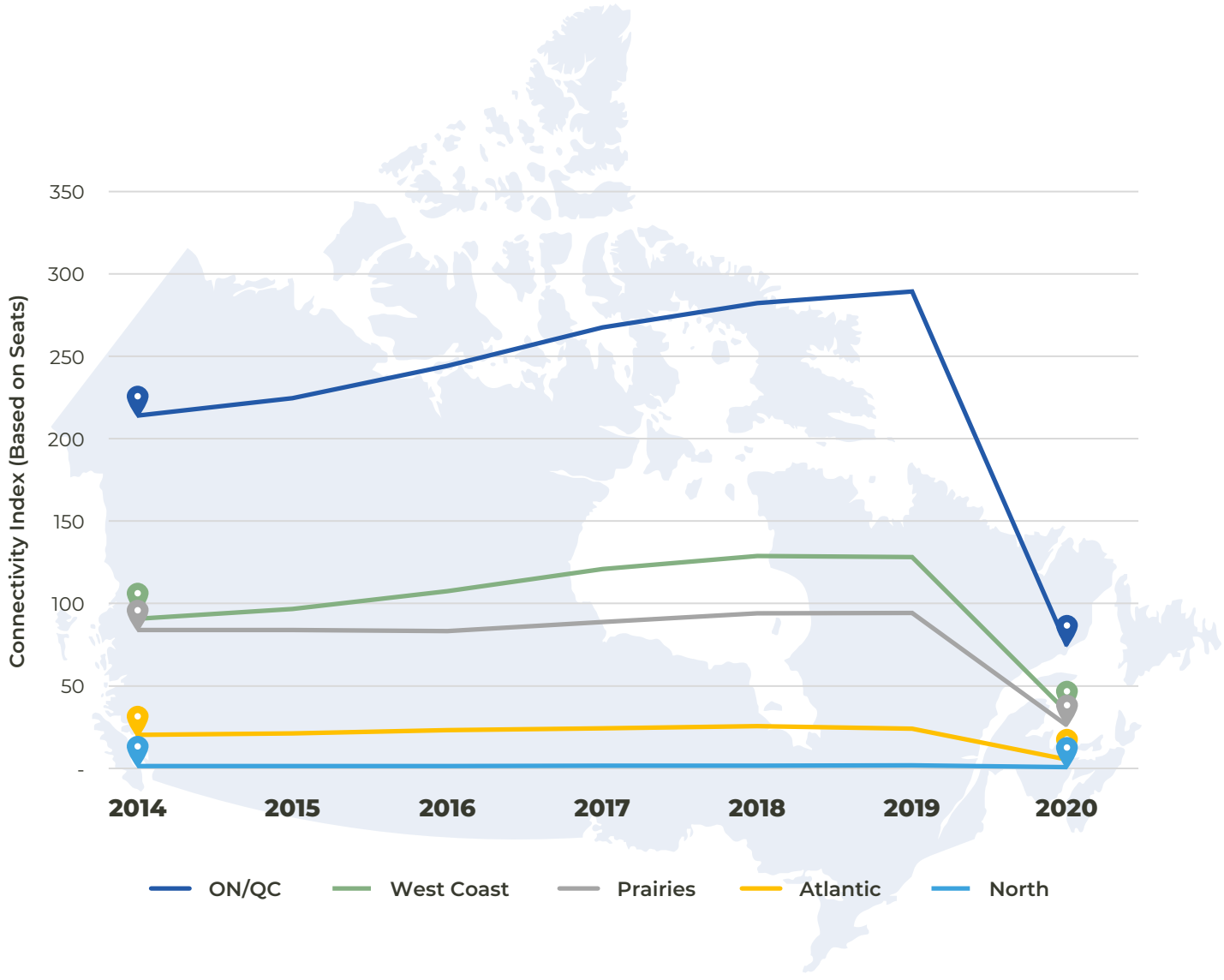
PEI BIOCLUSTER EMPLOYMENT GROWTH (2005-2020)



Source: PEI BioAlliance, 2020 Strategic Plan

Canada's Current Air Connectivity

The impacts of the COVID-19 pandemic on air travel in Canada continue to grow as travel restrictions are in place and borders remain closed to international travellers. The same connectivity index chart shown in the previous section, which highlighted the growth of connectivity across the country is shown below, but this time including the estimated connectivity index across regions for 2020. The enormous drop in direct connectivity is obvious, with the loss of international traffic shown especially in the three larger regions: Ontario, Quebec, and the West Coast (British Columbia).



Source: Inter*VISTAS* Analysis of Diio by Cirium Data

The table below illustrates the extent of travel demand suppression observed in Canada since the beginning of the pandemic. Direct connectivity fell more than 90% across all Canadian regions in April 2020 versus the same month in 2019. The picture for 2021 is just as dire, with direct connectivity falling even further compared to 2019. The only region that has seen a minor increase in connectivity between April 2020 and April 2021 is Ontario/Quebec. However, the region is still down 91% in terms of its direct connectivity score from pre-pandemic levels.

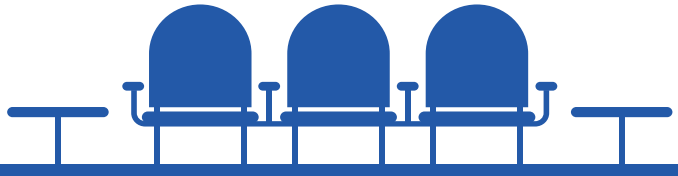
REGION	APRIL 2020 VS APRIL 2019	APRIL 2021 VS APRIL 2019
Ontario/Quebec	-94%	-91%
West Coast	-93%	-93%
Prairies	-92%	-94%
Atlantic	-94%	-98%
North	-90%	-93%

Source: Inter*VISTAS* Analysis of Diio by Cirium Data

The loss in direct connectivity has also affected levels of indirect connectivity. Using a sample week in February 2020 versus February 2021, the table below shows that there has been a loss in overall direct and indirect connectivity across all regions in Canada. These numbers also highlight that there are regions that rely more on the indirect connections that are created through direct services. For Atlantic Canada, losing roughly half of their non-stop flight options resulted in the loss of almost all their one-stop itineraries.

REGION	NON-STOP ITINERARIES	ONE-STOP ITINERARIES
Ontario/Quebec	-71%	-83%
West Coast	-67%	-83%
Prairies	-76%	-87%
Atlantic	-49%	-93%
North	-28%	-78%

Source: Inter*VISTAS* Analysis



Why Should We Worry about Connectivity?

Air connectivity in the Canadian context is not simply about being able to travel between cities for leisure purposes. High levels of air connectivity provide access to supplies, medical care, education, and important business and social connections. While the use of online platforms has increased significantly during the pandemic, some areas do not have an online substitute. For Canada's more remote communities, air connectivity provides a life-line for both medical access as well as delivery of supplies. Air connectivity is also essential not only for the movement of people, but for the movement of goods and sharing of knowledge, especially in the medical services profession, the distribution of personal protective equipment and for the rollout of vaccines across provinces.

As the COVID-19 pandemic has increased levels of remote work and triggered the migration of population away from city centers to more rural areas (within or potentially beyond provincial borders); data from Statistics Canada shows that Toronto had more than 50,000 people leave the city, while smaller cities and towns, such as Oshawa, are among the fastest growing,[6] air connectivity will play an increasingly important role as demand of air travel returns to normal levels. These displaced workers will likely have new and immediate needs in terms of air travel such as reconnecting with friends and family in their original hometowns. In addition, the increased remote work phenomenon observed during the pandemic will likely trigger the need to reconnect with co-workers in person. Remote teams may choose to have a retreat or a team gathering more often throughout the year due to the physical separation of team members. To ensure the continuation of a constructive work environment, remote workers might generate new business travel needs to meet with teams and clients in person, perhaps more so than pre-COVID where large teams worked together in person every day.

> **...we cannot grow our population, increase our tax base, and attract investment if people and businesses cannot efficiently and cost-effectively access this region. People just don't relocate to, and businesses just don't invest in, locations they can't access.**
>
> **SHERI SOMERVILLE**
> *CEO,*
> *Atlantic Chamber of Commerce*

Air connectivity can act as a catalyst for business growth, as some businesses look to expand outside of the major city centres to more mid-size cities. When an air service is added to a market that was previously not served by air, it becomes a direct enabler and catalyst for social and economic development. Research has shown direct links between air connectivity and economic productivity,[7] and that continues to hold true despite the pandemic. Air connectivity is vital to support essential inter-provincial migration, particularly in unserved destinations.

---

[6] A recent report by Statistics Canada noted the growth in urban sprawl (people moving away from the large city centres). Toronto and Montreal both saw net loss in population between July 2019 and July 2020 (-50,375 and -24,880, respectively). https://www150.statcan.gc.ca/n1/daily-quotidien/210114/dq210114a-eng.htm?HPA=1

[7] IATA (2007). "Aviation Economic Benefits." Economics Briefing No 8.

[8] Statistics Canada (2020). "The Economic Impact of Travel Restrictions on the Canadian Economy due to the COVID-19 Pandemic." https://www150.statcan.gc.ca/n1/pub/11-626-x/11-626-x2020023-eng.htm

The loss of connectivity observed in Canada throughout the pandemic has led to the isolation of communities across the country, both domestically and internationally. Businesses that once relied on a minimum level of air connectivity may be forced to relocate elsewhere where more sustained levels of air connectivity are maintained. Canada's current loss of air connectivity also hinders the country's ability in attracting and maintaining valuable talent and human resources. In turn, this hinders the ability for Canada to restart its business activity across all affected economic sectors. Businesses looking to restart operations and/or make investments during the recovery period will likely prefer geographies where a sustained level of air services was maintained. For example, the tourism industry in Canada, which supports over 750,000 jobs across the country has been severely impacted by the lack of connectivity and relies on air travel to bring in tourists domestically and internationally. Major tourist destinations and attractions are facing potential closure and have already undergone staffing decreases and other cost saving measures.

CASE STUDY **#3**

Northern/Remote Community Access

Canada is a geographically large and diverse country. Although the majority of the population lives within the southern part of the country, there are a number of northern and remote communities from coast to coast, and for them, air connectivity is a vital lifeline. These communities rely on connectivity to main centres for a variety of purposes: resupply, medical care access, access to education, social connections, infrastructure improvements, and goods movement, among others. In addition to these northern and remote communities, as shown on the map below, there are a number of near northern communities, with similar reliance on connectivity and while they may have access to roads year-round, for many of these communities, air transport is an essential option for many travel purposes.

For many remote and northern communities, air transportation can be the only viable year-round option for travel and access – for example, in Nunavut, there are no paved roads connecting cities, or the territory to other jurisdictions.[9] Another example is Churchill, Manitoba, where access to the rest of the province is only via rail and air. This was a major issue for the town and its residents in 2017 when the rail line was damaged due to flooding, leading to increased costs of all supplies and limited access to the rest of the province and country. Air access was paramount to the residents of the community, as it was the only connection to the rest of the province and country.

While there are some alternatives to air connectivity available (e.g., marine services, rail, internet services – for social connectivity), some needs, for example medical care, rely fully on air connectivity. For many communities, driving, especially in the winter months, is not a viable option. While some communities will have medical clinics, many procedures and testing equipment are not available, and so residents need to be able to fly to major centres for these services.

Having consistent connectivity to major aviation hubs is important in attracting both domestic and international students to regions outside of major centres. These institutions provide jobs within the region and can provide growth within the region as some students may choose to stay post studies. This is also true for wider economic development opportunities for northern, remote and near northern communities. Consistent air connectivity is important for tourism, business development, and attracting new investments in these regions.

As a result of the COVID-19 pandemic, a number of communities have lost considerable levels of air service, and these more northern communities have been impacted through the loss of direct services, but also the loss of many indirect connection options. Airports such as Prince Rupert, Prince George, Fort McMurray, North Bay, and more southern connector airports such as Edmonton have lost significant levels of service. North Bay, for example lost its direct service to Toronto, connected now only to Sudbury.[10] For Prince George, the airport has lost direct service to 5 of its destinations, and had its remaining services reduced to close to 75% of the available seats pre-pandemic.[11]

Given the importance of air connectivity in these regions, infrastructure investment is key to ensuring services remain. For some regions, there are limited aircraft types that can be used (with the current infrastructure), and investment in new runways and systems would allow for more aircraft types to be used, and potential future aircraft (such as electric aircraft). Airlines serving the north include mainline and arctic specific (like Air North, Canadian North, among others). While the governments (provincial and federal) are providing support for infrastructure in many of these regions, the results of the COVID-19 pandemic are likely that increased connectivity (above essential service levels) is likely to be hindered, as airlines decide which routes they choose to operate first, and where eventual expansion will go.

---

[9] Natural Resources Canada
[10] Inter*VISTAS* analysis of Diio by Cirium Data.
[11] Inter*VISTAS* analysis of Diio by Cirium Data.

03

The (Future) Cost of Air Travel in Canada

Factors that Influence the Price of Air Travel

The price of air travel in Canada is based on a variety of cost factors. Air travel providers such as airlines face structurally high operating costs, notably fuel and labour. Historically, fuel has been the single largest operating cost, typically accounting for approximately one third of a carrier's operating expenses. With fuel prices notoriously volatile, an airline's high exposure to fuel price fluctuations is an ongoing risk. Labour costs consist primarily of flight and cabin crews but also include ground handling, maintenance and dispatch staff required to safely operate an aircraft. Other cost categories include aircraft ownership, aircraft maintenance, navigation, various airport landing and terminal fees.

Similarly, airports face a variety of fixed and variable costs, but unlike airlines, the majority of an airport's cost base are fixed costs as they are major infrastructure providers. All of these costs are passed between the different players within the industry, as airlines and passengers are required to contribute to the cost of operations at the airport, and passengers are required to pay for their use of airline services. How much is ultimately paid is largely influenced by the willingness to pay of the traveller.[12]

[12] While this analysis is focused on the increase in price to passengers, there is also an impact on cargo shippers, as they are also reliant on air connectivity.

The Connection between Price and Passenger Demand

It is widely known fact that the price of air travel has an impact on demand. This impact is known as the price elasticity of demand. The price elasticity of demand is used to measure the sensitivity of consumer purchases of a good or service (i.e., the quantity demanded/purchased, in this case the number of passengers) to changes in price for a given good or service (in this case, airfare). Price elasticity of demand is formally defined as:

$$\text{Price Elasticity} = \frac{\%\ \text{Change in Quantity Demanded}}{\%\ \text{Change in Price}}$$

Since the quantity demanded generally decreases when the price increases, this ratio is expected to be negative.[13] As an example, suppose a good has a price elasticity of -0.7. Then a 10% increase in the price will result in a 7% decline in the quantity demanded. For a good with a price elasticity of -1.4, a 10% increase in the price will result in a 14% decline in the quantity demanded. Price elasticity of demand has been examined for years by the aviation industry. Since most passengers base their travel decisions on the airfare they receive from the airlines, the majority of research has focused on airline price elasticity.

The studies of airline price elasticity of demand have varying results, but a synthesis suggests three broad conclusions that are widely accepted:

1 **Passenger demand does respond to price, and in general this tends to result in an elastic response to airfares.**

A response is considered elastic if the percentage decline in demand is higher than the percentage increase in price.

2 **Passenger demand depends not only on the airline base fare, but also other components that make up the final total price paid by the passenger.**

These components include taxes, airport charges, airline surcharges (e.g., fuel surcharges in periods of high fuel prices) and increasingly, the ancillary charges imposed by airlines for services such as seat selection, baggage fees and onboard meals. Increasingly the all-in price paid by the passenger is growing faster than the base fare.

3 **A key outcome of the research is that the scope of a price change plays a key role in determining how elastic the consumer response will be.**

[13] While this holds for the case of airfares, there are goods and services that have the opposite effect (i.e., as price increases, demand for the product increases.

What Happens When the Price of Air Travel Increases?

At this point, given that the pandemic is still ongoing, and it is unknown when air travel will be encouraged and/or allowed for non-essential purposes, it is impossible to define with accuracy the full extent of the price increases that could occur given the increasing costs faced by airlines, airports, and other service providers in the air transportation supply chain.

In this section, using the concept of the price elasticity of demand, we estimate potential outcomes should prices faced by passengers increase by hypothetical, but possible amounts. The hypothetical increases are applied to the final price of the airfare paid by passengers. We do not assume the specific reason for the price increase. Examples could be increased air navigation costs, increased base fares, increased ancillary charges, government taxes, etc. However, it should be noted that some increased costs faced by the industry due to the financial challenges of COVID-19 could be passed through to travelers.

In 2019, the average airfare paid by passengers in Canada was approximately $470, and there were approximately 162 million passengers at Canada's airports.[14] The table below shows the resulting suppression of travel demand in the case of a hypothetical 25% and 50% increase in the price of air travel in Canada. The resulting average airfare would be approximately $590 and $705, respectively.

The price elasticity of demand estimates are based on those reported by IATA. More recent research does not suggest substantial changes in the estimates found in the 2007 IATA study for North America, including Canada. The analysis here is based on price increases occurring nationally. If price increases were to occur only for specific markets, one would expect that the demand response would be stronger (i.e., a larger loss in passenger demand). However, there are multiple factors at play as air travel recovers in Canada, and it is not yet known the level of pent-up demand – and some passengers segments are likely to be less sensitive to price increases.

Source: Inter*VISTAS* Analysis

[14] Average airfare data from Sabre MIDT data; Annual passengers at Canada's airports from Statistics Canada.

Based on our analysis, the estimated lost passenger demand resulting from a 25% increase in the price of air travel is 20%. Based on passenger traffic at Canadian airports in 2019, the expected loss in passenger demand would equate to roughly 16 million passengers. Although this analysis looks at passenger traffic as a whole, experience has shown there is a difference in price sensitivity among various passenger segments. Historically, business travellers have been less price sensitive compared to the average leisure traveller. For the business traveller, frequency and routing are key in determining their flight choices. For the leisure traveller, price is the most important consideration.

Research based on survey analysis shows that there is potential for a shift in business travel, especially in the case of intra-company meetings. However, sales and business development activities still require in-person meetings, so this segment is less likely to disappear due to the recent trend towards videoconferencing during COVID-19.[15] For Canada, the return of business travel – a driver of economic growth – is crucial for long-term economic recovery.[16]

Travellers' willingness to pay for air travel may change post COVID-19, but it is still too soon to jump to conclusions. It may be that demand will be extremely high during the early days of recovery and consequently leisure passengers would be willing to pay higher fares for the ability to travel again. In contrast, business travel may become more price sensitive as businesses cut costs and switch to video and web-based platforms for meetings and routine communications. However, regardless of the mix of passengers and their hypothetical behaviour post-COVID-19, a large increase in prices for air travel would definitely have an impact of the number of passengers at Canadian airports.

[15] IdeaWorks Company (2020) "The Journey Ahead: How the Pandemic and Technology will Change Airline Business Travel" https://ideaworkscompany.com/wp-content/uploads/2020/12/Journey-Ahead-Airline-Business.pdf

[16] Coscia, Neffeke, and Hausmann (2020) "Knowledge diffusion in the network of international business travel." See Harvard University Growth Lab: https://growthlab.cid.harvard.edu/academic-research/business-travel

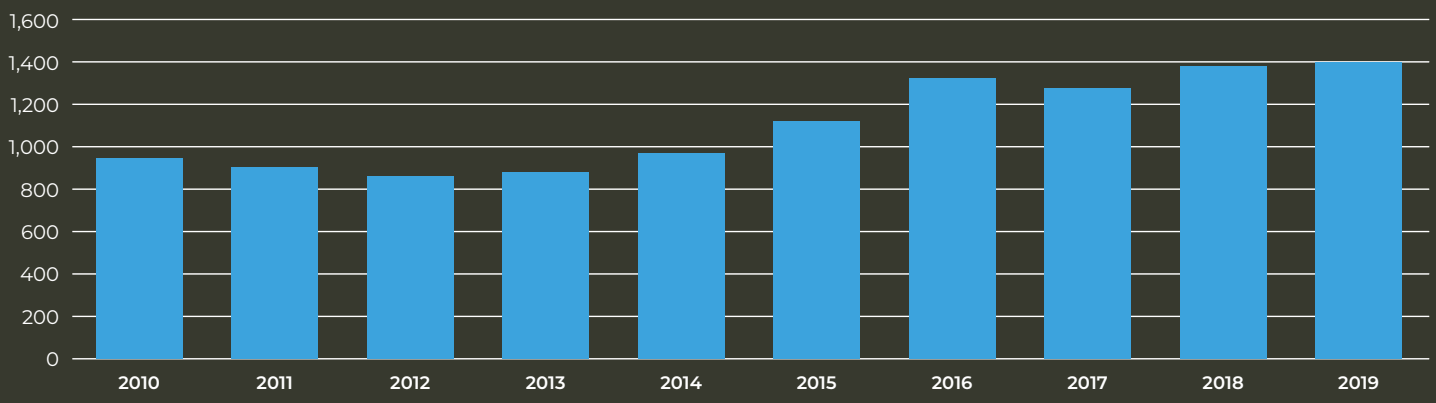
CASE STUDY #4

Seafood Supplier on the West Coast

British Columbia is home to one of the most dynamic and diversified seafood sectors in North America, with an international reputation for safe, reliable, and top-quality products. Food safety, traceability and sustainability are the cornerstones of the British Columbia brand as local suppliers are regularly recognized by organizations such as the Ocean Wise Program and reputable publications like SeafoodSource. Exports have been on the rise in recent years. In 2019, international exports of B.C. seafood products reached $1.41 billion, up 57% compared to 2013. The U.S., China, Japan, Hong Kong, and Ukraine have been identified as the top five export markets. Nigeria, the U.K. and Lithuania are the fastest growing export markets in 2019 according to the B.C. Ministry of Agriculture.

Seafood suppliers in British Columbia range from well-established companies with a wide selection of offerings for Canadian and foreign consumption, to niche-type producers that focus on a few premium products primarily destined to foreign markets. Established in 2007 by local fishermen, **Organic Ocean Seafood** supplies sustainably harvested seafood to the ultra-premium food services and retail markets in Canada and Asia. Products for export include salmon, halibut, lingcod, rockfish, wild crustaceans and mariculture shellfish. Eyeing an expansion in Asian markets, **Fanny Bay Oysters** offers top-quality shellfish products from along the B.C. coastline such as manila clams, pacific oyster, blue mussels and pacific scallops. Positioned in the niche segment, **Best Honour International Seafood** is an exporter of premium B.C. geoduck, a type of giant clam native to the west coast of British Columbia. **Gourmet Ocean** is a sustainable aquaculture company specialized in the niche export of premium, all-natural, wild caught giant red sea cucumber, a product highly valued in Asia. With exports to Switzerland and Poland, **Little Miss Chief Gourmet**, a registered Aboriginal company offers gourmet wild pacific smoked salmon marinated in organic Okanagan wine.

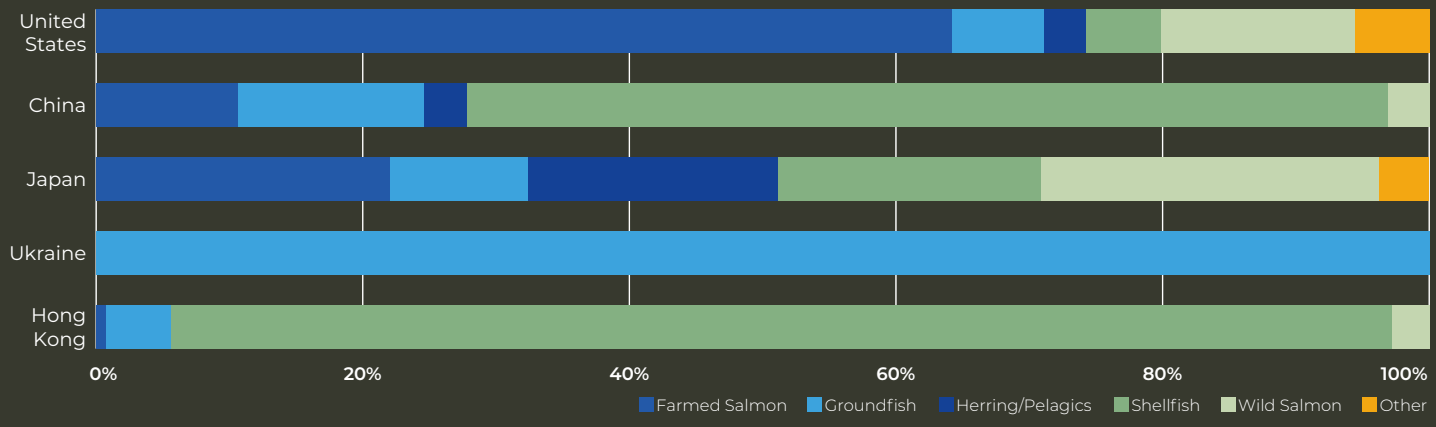
B.C. AQUACULTURE AND WILD COMMERCIAL FISHERIES
INTERNATIONAL EXPORTS ($ MILLIONS)



Source: Adapted from Agriculture and Agrifood Canada, CATSNET Analytics

Considering the international reputation and growing reach of local seafood suppliers in global markets, access to reliable air services within and from/to B.C. is fundamental for supporting the continuous growth and success of this key economic sector. The ability of innovative companies such as **Little Miss Chief Gourmet** to succeed in foreign markets depends largely on B.C.'s air connectivity with European and North American markets. Companies such as **Gourmet Ocean** and **Best Honour International** rely on air services to/from Asia and beyond. Diminished air connectivity from/to British Columbia can negatively affect the expansion and positioning of these businesses in foreign markets.

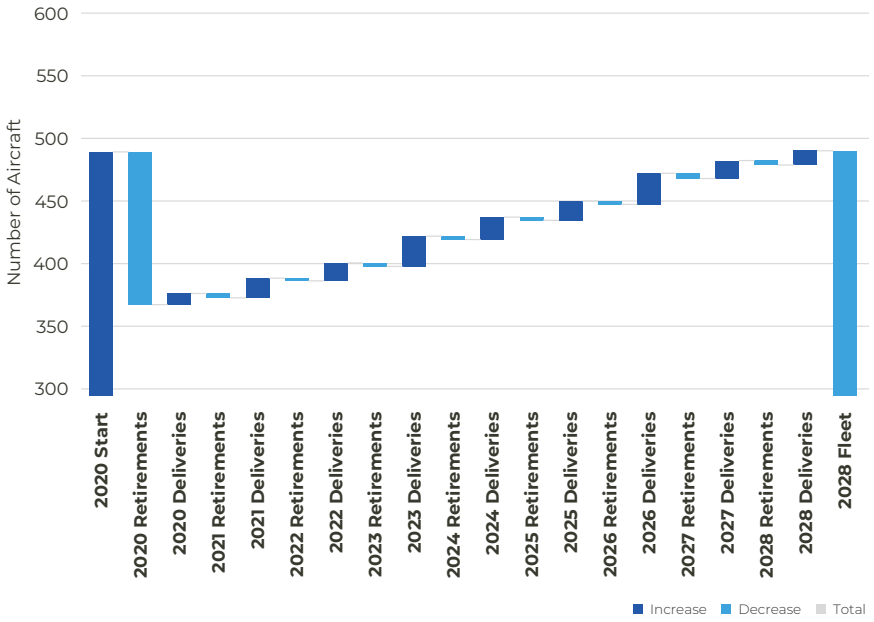
B.C. SEAFOOD TOP 5 MARKETS - SHARED BY SPECIES



What Does This All Mean for Competition?

Canada's airlines and airports have faced severe financial hardship during the COVID-19 crisis and continue to do so. The fragile financial position of Canadian airports since March 2020 has also resulted in the furlough of staff and the postponement of capital investments. But most importantly, the financial position of Canada's aviation sector is likely to have an impact on the competitive landscape and the ability of Canadian airlines and airports to compete with their U.S. counterparts.

In 2020, Air Canada permanently retired more than 70 aircraft. On the U.S. side, some network carriers have added to their fleet, while others have added new flying to new destinations or added capacity with larger aircraft on existing routes. In addition, two new low cost carriers have announced new domestic U.S. networks – Avelo Airlines and Breeze Airways. Because the U.S. airlines were able to retain more of their fleet (with the retirement of aircraft generally focused on moving up planned retirements), they have more fleet at their disposal to swiftly optimize their networks in the short term to meet the increased domestic demand. For example, United Airlines reduced its fleet in 2020 by only 6% and southwest reduced its fleet by only 3.9%; at the same time, United has ordered 25 Boeing 737 Max aircraft, in addition to orders it already had for this aircraft.[17] The chart above illustrates the fleet of Canada's airlines from 2020 to 2028. The sharp decrease observed in 2020 could take to 2028 to return, making it difficult for Canadian airlines to match the current projected return to demand levels in 2025. While airlines can procure additional fleet in the future as demand returns, the process of acquiring additional aircraft is likely going to take some time, potentially missing an opportunity to capture any increases in air travel demand.



Source: Boeing, Airbus, Carrier Reports, Inter*VISTAS* Analysis; Mainline fleet from Scheduled Canadian carriers only

For many domestic routes, it might mean that capacity, in terms of frequency of flights and seats available, will be reduced, at least in the short term. For international markets, it may result in routes served by foreign carriers (based in the U.S. and elsewhere), instead of Canadian airlines. Many foreign carriers have had greater support from their governments (early on in the pandemic), and these carriers have been able to maintain more flying capacity through the pandemic. It is more difficult then for Canadian carriers to compete in the same international aviation market, given the advantages that these foreign carriers have.

Having said that, the decrease in capacity from Canada's carriers has attracted new capacity from both regional carriers and ultra low-cost entrants. While these carriers may be able to cover the capacity lost in specific regional and medium haul markets, as noted, they do not provide the same connectivity to international markets that service from the mainline carriers do. Canadian mainline carriers may be disadvantaged to restore international service at the same rate as their foreign competitors in the short term.

[17] United 2020 Financial Results Press Release; FlightGlobal; Southwest 2020 Annual Results

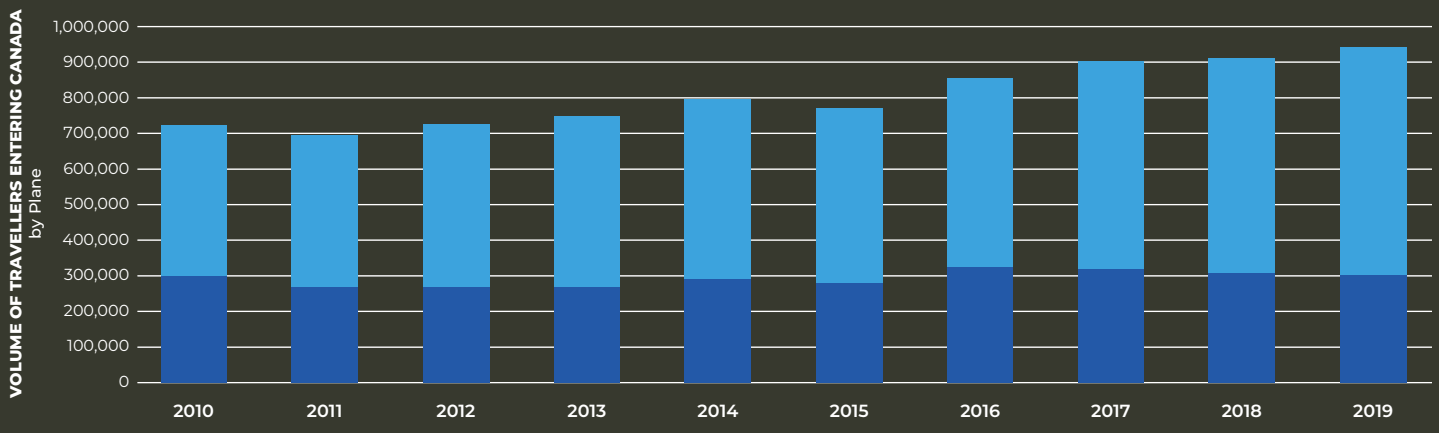
CASE STUDY #5

Importance of Air Connectivity to Support Alberta's Tourism Industry

1. Overview: Alberta's Tourism Industry

Alberta hosted 35 million person - visits in 2019, spending $8.2 billion in the provincial economy.

Alberta's tourism industry is an important driver for the provincial economy, which employed 68,000 people at 20,000 tourism-related businesses in 2019. These businesses hosted nearly 35 million person-visits, with spending of $8.2 billion in the province in 2019 at paid accommodation providers, restaurants, retail, attractions and ground transportation providers and other businesses that sold goods or services to visitors.[18] Tourism includes both leisure travel and business travel. Business travel is often related to attending meetings, conferences, and conventions. These travellers will also be apart of the spending at the various accommodations, restaurants, and other related businesses. For some business travellers, their spend could also be larger, on average, than a leisure traveller.



Source: Statistics Canada. Table 24-10-0005-01 International travellers entering or returning to Canada, by province of entry, seasonally adjusted

[18] Source: Alberta Tourism Indicators (https://industry.travelalberta.com/visitor-market-insight/tourism-indicators/alberta-tourism-indicators)

2. Aviation is a Facilitator of Tourism to Alberta

Alberta's aviation industry is a significant facilitator of the province's tourism industry by supporting those visitors who travel to the province by air from domestic, U.S. or other international origins. According to data collected by Statistics Canada, over the past 10 years, the volume of U.S. and overseas visitors to Alberta had increased 30% from 2010-2019. Over this time period, there had been increases in U.S. and international air service locations from 39 to 51. U.S. visitors travelling by air into the province had increased 50% over the 10 year time frame, growing from 426,000 visitors to over 640,000 visitors in 2019. The volume of visitors from other international origins held steady at around 300,000 travellers per annum over the decade.

Alberta's gateway airports in Edmonton and Calgary support tourism to all parts of the province.

The main international aviation gateways into Alberta are via Edmonton International Airport and Calgary International Airport. Both airports serve as the point of entry for the majority of domestic and international flights and from there, visitors may choose to drive to their final destinations, such as Banff or Jasper, or connect through other regional airports in the province. The province's aviation network is critical to facilitating the movement of visitors across and within the province.

3. Wider Economic Benefits

Airports are an integral component of Alberta's and the nation-wide transportation network. The network allows the economy to operate more efficiently and provide important links to economic activity nation-wide. Airports contribute substantially to employment, GDP, economic output in Alberta and beyond. Airports facilitate travel which supports economic development within communities by attracting tourists and businesses, creating job opportunities which support wages that are spent in the province that further drive economic activity. Air connectivity also supports wider economic benefits in Alberta's economy. An increase in connectivity to/from/within the province facilitates economic growth and development in a wide spectrum of industries, referred to as catalytic impacts.

Air connectivity supports wider economic benefits through air services at airports in Alberta

04

The Future of Air Connectivity

The aviation sector is set to remain a key enabler and catalyst of Canada's economic recovery post-COVID-19. Air passenger and cargo services are expected to support Canadian businesses and exporters in foreign markets, including fostering new deals and company expansions, promoting people-to-people connections, and supporting the new digital economy. Canadian airports are key foundations of Canada's recovery agenda because of their role as regional and continental gateways, job creators for surrounding urban and rural communities, and natural catalysts of economic development and growth across regions and provinces.

Although regaining the air connectivity lost since March 2020 is one step in the right direction, a clear path forward for Canada's aviation sector is yet to be defined. Doing so will require clarity of intention and cohesiveness in the overall approach as there are a number of challengers ahead.

As discussed in this Whitepaper, air connectivity and potential hikes in the cost of air travel are likely to play a large role in the speed and scope of recovery for the aviation sector in Canada. The ever-changing dynamics observed in consumers' behaviour across some markets and the general attitude towards air travel post-COVID-19 are likely to be determining factors. As we have seen above, there are a number of areas of aviation such as northern/remote services and critical medical travel that are typically considered price inelastic (i.e., a change in price does not significantly impact travelers' desire to purchase).

However, from a perspective of recovery for business and discretionary travel (i.e., visit family and friends, tourism, and leisure), there is a higher sensitivity to the changes in price of airfares. Past industry performance in this regard has demonstrated that higher prices tend to diminish the ability for overall demand to be maintained or increase. The real risk for Canadians is that accessing destinations could become either more difficult – due to the lack of seats offered by airlines which is linked to less aircraft available in the market – and/or more expensive in the post-pandemic world. The same issue is likely to arise on the cargo side with higher shipping costs, thus affecting the bottom line of companies that rely on air shipping.

> **"As hundreds of thousands of jobs have hung in the balance, travel restrictions have created serious problems for professionals and businesses since the start of the pandemic. The impact reaches far beyond tourism. Not all activities can be virtual, and the ability to undertake business development or provide critical technical services has been severely restricted. Other countries understand that current travel restrictions are not sustainable, and we need to keep pace with our international partners. That can't happen without a plan."**
>
> **PERRIN BEATTY**
> *President and CEO,*
> *Canadian Chamber of Commerce*

Although increased levels of passenger traffic – both domestic and international – are likely to benefit Canadian airports in the early days of recovery, these are still subject to airlines adding the necessary capacity (i.e., seats) to meet new demand for air travel. As discussed above, because of fleet retirements by

Canadian airlines in the last year, the aviation sector and related industries may miss the opportunity to fully capture the economic benefits that typically accompany increases in air travel demand. Regional air connectivity will likely suffer as a result and perhaps unduly prolong the much awaited recovery in regions such as Atlantic Canada, Northern British Columbia, the Prairies and Quebec, among others.

In the long-run, Canada's overall competitiveness in the new global economy can only benefit from a dynamic and financially competitive aviation sector that provides air connectivity to local businesses, industry leaders and regional industries to/from foreign markets, while also creating jobs and promoting tourism across at home. Canada's recovery agenda for the aviation sector should not be deployed in isolation from the rest of the world. Canada's aviation sector would actually benefit from deploying a recovery agenda that is at least in part compatible with that already initiated by the U.S., our largest trading partner. Finally, the interests of related industries and communities – tourism, shippers, remote regions, local companies – should be considered.

CANADIAN AIRPORTS COUNCIL
CONSEIL DES AÉROPORTS DU CANADA

Canadian Airports Council

600 - 116 Lisgar Street
Ottawa, ON K2P 0C2
Phone: 613.560.9302

The Canadian Airports Council is a division of Airports Council International-North America