

Building the Business Case

Commercial Air Service: Market Analysis

Prepared for:



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January 2018

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1 Introduction

1.1 About InterVISTAS

InterVISTAS is a company of Royal HaskoningDHV, an independent, international consultancy, project management and engineering service provider. Ranking globally in the top 10 of independently owned, non-listed companies and top 40 overall, Royal HaskoningDHV's 7,000-person staff provides services across the world from more than 100 offices in over 35 countries. It carries out more than 30,000 projects every year in aviation, planning, transport, infrastructure, water, maritime, industry, energy, mining, and buildings. As part of the Royal HaskoningDHV team, this alliance complements InterVISTAS' portfolio with services in infrastructure development, engineering, design, and program management in the aviation sector.

InterVISTAS has extensive experience in strategic air service development, great familiarity with the Canadian aviation landscape and globally recognized industry experts. We have worked with airlines and airports all around the world, including Air Canada, WestJet and Porter at nearly all major and regional Canadian airports. Moreover, InterVISTAS has worked directly in the Muskoka region on previous engagements on the subject of airport governance and security. We believe we have great familiarity with the local and global aviation trends that are relevant to attracting commercial air service to the Muskoka region.

1.2 Project Timeline

InterVISTAS was contracted in June of 2017 by Explorers' Edge on behalf of this organization and the District of Muskoka's Planning & Economic Development Committee to determine market share potential, load (passenger volume), yield (average fare) and risk sharing scenarios for air service into YQA in order for Explorers' Edge to build a business case to pitch to Canadian airlines. Working with current market data and with new, timely research conducted by Environics for Explorers' Edge between April and October of 2017, InterVISTAS provided a draft market analysis report in November, 2017.

1.3 Project Objectives

Attracting commercial air service requires a rigorous understanding of the market's air service market potential. Explorers' Edge, Ontario's regional tourism organization for Algonquin Park, the Almaguin Highlands, Loring-Restoule, Muskoka and Parry Sound, has retained InterVISTAS Consulting to analyze the air service market potential of the region, to be served from Muskoka Airport ("YQA").

The process of attracting commercial airline service to the market area begins with understanding the air service market potential of the market. Typically, commercial airlines rely on publically available industry data sources to understand passenger demand for air service trends between any two cities worldwide. However, in the case of markets without previous commercial activity, airlines themselves have little available sources at their fingertips to truly understand the market potential; airline network planners will need to rely on other data sources that are not typically easily accessible to them.

The objective of this study is to devise the true air service market potential of the Muskoka region to be served from YQA. The study will utilize available visitor data sources from government agencies, tourism organizations, as well as passenger surveys to understand market demand behaviour. As there is already robust demand for travel to/from the Muskoka region by ground transportation, a key component of this study will be to determine the propensity for air travel should a commercial air service be introduced at YQA.

To achieve the study's objectives, this report will cover the following areas:

1. **The Airline Decision Making Process** – Overview of the airline decision making process.
2. **Muskoka Air Service Market Potential at YQA** – A rigorous, defensible, conservative approach to determine the air service market size potential of the Muskoka region at YQA using significant new and current qualitative research.
3. **Risk-Sharing and Incentive Frameworks** – Review of airline risk-sharing and incentive structures and its applicability in attracting air service to the Muskoka region.

2 The Airline Decision Making Process

2.1 Introduction

To provide context around attracting commercial air service to the Muskoka region, we start by reviewing the airline decision making process. With the overall objective of achieving a suitable financial return, airlines develop their route networks with a focus on maximizing the return on aircraft assets. These assets typically cost hundreds of millions of dollars, representing a large upfront capital investment from which airlines need to make a suitable return. However, unlike capital investments in fixed assets such as factories, aircraft assets are mobile; they can be deployed to fly between different markets worldwide depending on the market conditions. To maximize their profitability and return on investments, the network planning team at an airline is tasked with aircraft deployment decisions (i.e. which routes to fly and at what level of service).

2.2 Airline Network Planning

In order to respond to changing market needs, the airline network planning process is a continuous activity. As market demand can vary greatly from year to year, and season to season, airline network planners are constantly designing new route network schedules and adjusting current ones to maximize profitability. Network planning activities can be categorized into short, medium, and long-term:



In the short-term, network planners track booking patterns for the existing schedule and make adjustments to the aircraft size and frequency as needed to meet closer-in demand fluctuations. These efforts are closely coordinated with the airline's operations department to ensure sufficient crewing and airport ground resources to perform the scheduled flying as planned. The network planning team also work closely with the revenue management department to ensure booking and revenue trends are on track as per their forecast.

For the medium-term strategy, airline network planners design the route network for the year, typically splitting the year into summer and winter seasons to reflect the different demand patterns. The focus is on the one to two year time horizon for this element of the process. In order to allow sufficient time for passengers to purchase tickets and make reservations, new

route schedules are typically finalized and released at least six to nine months in advance of the flying date. In the case of charter services, where passengers typically book their vacations well in advance, the schedules may even be finalized twelve months in advance. As such, airlines work on fairly strict “planning cycles” and any air service development efforts from communities need to be aligned with these timelines.

In order to select new routes, airline network planning teams conduct extensive research and analysis on market opportunities and then prepare forecasts for potential new routes. For routes that are deemed to hold potential, a detailed business case is prepared and then sent to senior management for approval. A fundamental component of the business case is demonstrating that the new route can provide a sufficient financial return. At the route level, profitability is driven by load factor (passenger volume) and yield (average fare). Airlines might accept a lower volume of passengers if they are able to charge higher fares on a segment – this is often the case for business travel. Conversely, if fares are low, airlines will require high load factors (a full or nearly full plane) in order to achieve the same results. Since aircraft are relatively easy to re-deploy to other routes, airlines will generally add new markets based on expected financial performance. Similarly, airlines tend to exit routes that do not meet their financial expectations.

Having said that, there may be strategic reasons for an airline to enter and maintain presence in a market. If the airline holds special landing access rights at a particular airport, it may choose to continue services to/from that airport to prevent losing access to its competitors. Examples of access restricted airports include London Heathrow, Hong Kong International, Washington National Reagan and New York LaGuardia airports. These airports typically operate at maximum capacity at peak times and therefore, have a special process for airlines to apply for a flight at a particular time of day, referred to as a landing or take-off slot. In the event that the financial performance of a route to a slot restricted airport is below expectations, the airline will need to find ways to use the slot assigned (improve revenue management for the route, use the slot to fly to another market); if they exit the market altogether, the airport will assign the access right to another airline. Airlines may also initiate new services as part of a competitive response strategy.

Long-term network planning typically focuses on the three to five year time horizon. The planning team researches new aircraft technologies and sets out the airline’s overall network growth strategy for the long-term. This strategy is developed in close coordination with the airline’s internal finance and government relations departments to ensure the proper fleet and regulatory approvals are in place for network expansion.

2.3 A Data-Driven, Conservative Approach for Airline Network Planners

In order to attract commercial service to YQA, an airline must thoroughly understand the air service market potential of the Muskoka region. Network planners must understand the potential demand (inbound and outbound) and the expected average fare of the proposed air service route before making a launch decision. Other factors such as aircraft availability, ground staff and crew training, and other considerations need to be considered as well.

A measured and conservative approach to the air service market potential should be taken to ensure projected results are viewed as credible by the airlines. Above all, airlines demand a data-driven approach, in which market potential is calculated based on recent data points and/or actual statistics collected by trusted sources. This process is particularly important when explaining and defending the market research and route analysis to network planners, who hold the responsibility to make the market launch decisions at an airline. If airlines are not confident that the research and analysis is accurate, they will discount the business case as being unrealistic.

As YQA does not have commercial service yet, widely-used industry-trusted market sizing tools will not reflect the true market potential for the Muskoka region. As such, RTO12 developed and deployed additional research to quantify the air service market size for airlines (see section 2.3.1). The air service market analysis will be used to engage with the airlines during their medium-term network planning process as they research new markets to enter.

Not knowing which airlines would be most interested in the results of this business case for commercial service and the market analysis, research was conducted to consider inbound and outbound markets between YQA and YTZ as well as YQA and YYZ (see section 3.2).

2.3.1 The Importance of Up-to-Date Research

RTO12's extraordinary step to include quality, current data to inform the airline industry and to make the best business case is to be lauded, as data airlines rely on is often from a few years previous. As an "unproven" airport, the following investment (time and monetary) into the following research by RTO12 and the District of Muskoka has proven extremely helpful:

- 2017 Environics Market Surveys
- 2017 Cottager Association Survey
- 2017 Real Estate Industry Survey
- 2016 Census Population Data
- 2014/2015 RTO12 Ontario Ministry of Tourism Data
- 2013 Seasonal Home Study

3 Muskoka Air Service Market Potential at YQA

3.1 Airport Local Catchment Area

Muskoka Airport (YQA) is located in the District of Muskoka at the north end of the Town of Gravenhurst. In order to determine the air service market potential for YQA, it is important to first define the main market area for the airport. Together with the Explorers' Edge management team, it was decided that the main catchment area is within a 35 minute drive radius of YQA. This includes the towns of Orillia, Gravenhurst, Bracebridge and Huntsville. Together with the rest of the Muskoka region, the population of permanent residents in this area totals approximately 90,000 (based on reported data of the 2016 Canada Census).



Figure 1: YQA Local Catchment Area

3.2 Types of Air Service Market Demand: Outbound and Inbound

Two main components make up the total air service market demand at YQA – passengers who live in the local catchment area that have a need to travel outbound from the Muskoka region (identified as “Outbound” demand) and passengers who travels to the Muskoka region from in the province, country or internationally (identified as “Inbound” demand).

For each of the market demand segments, air service demand to the two main airports serving the Greater Toronto Area (GTA) are considered - Toronto Pearson International Airport (YYZ) or Billy Bishop Toronto City Airport (YTZ). These airports are the most likely candidates for YQA commercial service as there is already a considerable amount of travelers between the GTA and Muskoka region, as well as the ongoing flight connection that are available at both airports to both domestic and international destinations.



Figure 2: Proposed Air Services from YQA to Toronto

An important consideration of both market demand types will be to determine the traveler's willingness to fly. Many travelers between the regions today are traveling by car – whether to go to just the Toronto area, or driving to YYZ or YTZ to take a commercial flight. As there are many reasons to drive (or not drive), surveys were designed and executed (see Appendices) by RTO12 and Environics to better understand what percentage of travelers are willing to fly on a commercial air service for their travels to/from Muskoka, as well as the average fare they are willing to pay. The final analysis of projected results maintained a conservative approach to calculate demand levels; this was done so that when the data is presented to airlines, they can have confidence that they can achieve the projected financial results.

3.2.1 Outbound Demand

The outbound demand group consists of the residents of the Muskoka Airport catchment area. Currently, residents need to travel to an airport in the Toronto area with commercial airline service to fly on a scheduled commercial flight. If their destination is Toronto, residents will

likely use ground transport and likely be subject to frequent traffic bottlenecks on the roads and highways to/from the GTA.

An Environics survey was deployed to the communities in the YQA’s local catchment area in July 2017. Based on estimates of travel demand in the summer months (June through to September) and travelers’ willingness to pay, using the conservative approach, it was determined that a total of 58 passengers per day each way (PDEW) would be the available outbound air service demand market size for the commercial carrier during the summer season. On a weekly basis, this translates into 403 passengers per week each way (PWEWs). This outbound demand applies to both Toronto airports. 90% of the passengers indicated that they were willing to pay an average price of \$250 roundtrip for the service.

Outbound Passenger Demand (Summer Season)	Passengers Per Day Each Way (PDEW)	Passengers Per Week Each Way (PDEW)
Greater Toronto Area	58	406

Source: Explorers’ Edge, Environics and InterVISTAS analysis

3.2.2 Inbound Demand

The inbound demand comprises of visitors to the Muskoka region from outside of the catchment area. To set the basis of understanding visitors to the region, the Ontario Ministry of Tourism, Sport and Culture collect annual visitor statistics to the Muskoka region (Region 12, also known as “RTO12”). These include visitors to the region, whether their visit is driven by the amount of seasonal homes in the area, or driven by the tourism offerings in the region such as resorts, golf packages or nearby Algonquin Provincial Park. These visitors include those from the Greater Toronto Area (GTA), those from other parts of Canada, the USA, as well as those from international countries such as the U.K., Germany, China and others.

The study focused in on four areas of inbound demand:

1. Passengers from Toronto Pearson International Airport YYZ
2. United Kingdom originating passengers, traveling via YYZ
3. Passengers from Billy Bishop Toronto City Airport YTZ
4. U.S. originating passengers from Boston, Chicago, New York and Washington DC traveling via YTZ

For visitors from the GTA area, market demand was focused on seasonal home owners and seasonal home visitors. For each of the above demand areas, targeted Environics surveys were deployed to understand the portion of the current visitor demand that was willing to fly to visit the Muskoka region during the summer months. Similar to outbound demand, the market sizes are presented in daily and weekly numbers.

The following table summarizes the results of the inbound demand in each of the demand categories.

Inbound Passenger Demand (Summer Season)	Passengers Per Day Each Way (PDEW)	Passengers Per Week Each Way (PDEW)
GTA (Toronto Pearson International Airport)	201	1,407
United Kingdom (UK)	15	105
GTA (Billy Bishop Toronto City Airport)	171	1,197
USA (Boston, Chicago, New York, Washington DC)	177	1,239

Source: Explorers' Edge, Environics and InterVISTAS analysis

Additional details on the market size calculations are provided in another document (in PowerPoint format).

3.3 Airline Capture Share & Forecast

The above figures represent the available size of the market that is willing to fly on a commercial air service to the Muskoka region. In reality, the airline will not be guaranteed access to 100% of this market size, as some passengers may need to travel on alternate days or that the flight schedule does not suit their travel needs. In addition, as this will be a new service to an airport without previous commercial air service, there will likely be a transitional time period at the beginning of the service where travelers need to be made aware of the service as well. As such, a conservative, achievable Year-1 airline capture share rate of 3% to 4% was introduced to reflect the forecasted onboard passengers of a commercial airline service.

Armed with the true air service market demand, different flight schedules and service patterns were modeled at a conservative 2x weekly and 3x weekly frequency using different types of regional aircraft. Additional analysis were made to calculate project passenger demand (passenger load factor) of each flight and the incremental revenue forecast for the targeted airline. Driven by outbound and inbound market size data, this business case financial forecast is used for presentation to the target air carrier to indicate the forecasted market revenue potential of a commercial scheduled service at YQA. The detailed route forecast and airline business cases are provided in another document (in PowerPoint format).

4 Risk Sharing & Airline Incentive Mechanisms

Even with a robust and conservative market analysis and route forecast, airlines often need additional incentives to start a new route. Often, local business, tourism organizations and other community partners can offer a risk sharing incentive package to the airline. These incentives serve two main purposes: to offset the airline's cost of launching the new route and to signal to the airline that the local community strongly believes that the demand for the new route will meet and exceed airline expectations.

4.1 Airline Costs

To provide context around the appropriate levels of risk-sharing structures, it is helpful to have an understanding of the operating costs faced by airlines. This is because airlines will generally use operating costs as the basis for assessing the risk of a new route. The more costly it is to operate, the more risk the airline is exposed to. As such, incentives will generally be considered in relation to the overall level of risk that the airline is taking. If an incentive program can cover a meaningful portion of the operating costs, it will mitigate the airline's risk, and will therefore factor into the decision making process.

In terms of the specific cost components, the largest operating items faced by airlines are 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, airlines' high exposure to fuel price fluctuations is an ongoing risk. Labour costs consist primarily of flight crew but also include ground handling, maintenance and dispatch staff required to safely operate an aircraft. Other prominent airline operating cost categories include aircraft ownership, aircraft maintenance, navigation and various airport landing and terminal fees. While airport charges make up a small percentage of the total cost of operating a flight, the low margin environment of the aviation industry means that changes to, or elimination of, these charges can still have a material impact of the projected performance of a route.

Although the actual airline costs associated with specific routes are only known by the airlines, we can make use of publically available financial statements and other publically available industry data to provide an estimate of costs associated with different types of service. Of course the actual costs will vary depending on the airline actually operating the service, but for the purposes of designing a risk-sharing structure using figures that are representative of the industry on average is suitable. Operating costs for select regional aircraft suitable for YQA commercial service are provided in the table below.

Select Aircraft Type	Estimated Operating Cost* Per Block Hour (CAD\$)
Beechcraft 1900D (18 seats)	\$1,600
Bombardier Dash-8-300 (50 seats)	\$3,400
Bombardier Dash-8-400 (74 seats)	\$3,900

* Excludes aircraft ownership and fixed overhead costs.

Sources: Airline financial statements, US DOT Form 41 database (accessed via Diio), InterVISTAS analysis.

As shown in the table above, the cost associated with operating these aircraft incur a significant financial burden over the course of a summer season for a commercial airline. As such, we need to explore various methods for the Muskoka region to share this financial risk, as a signal of the region’s commitment to develop a long term partnership with a commercial airline operator at YQA.

4.2 Airline Incentive Programs

Airline incentives are used by airports, often in conjunction with other community and regional partners, to mitigate the risk to carriers of starting a new air service. As airlines face more and more pressure to decrease costs, incentive policies are growing in popularity and magnitude around the world. Many airlines now require risk-sharing incentives in order to commit to a new air service. Based on InterVISTAS experience, it is estimated that over 90% of all commercial airports in Canada offer incentives in one form or another.

While incentives have in general been a source of concern for airport operators, if used properly, they can be a sound investment. To be successful, incentives should target routes that can grow to be self-sustaining within a few years. As such, detailed route analysis should be conducted to determine if incentives are appropriate and what impact they may have on existing services. Incentives should be viewed as a mechanism to bridge the gap between an airport’s confidence in a route and the carrier’s perceived risk of launching it. They are also a mechanism to achieve a competitive advantage versus alternative deployment options. As aircraft are highly mobile assets, airlines are always evaluating competing deployments for their fleet as they seek to maximize their return on investment. A well-crafted incentive package can put a route over the top versus the next best deployment opportunity an airline may be considering for that aircraft.

Incentive packages can be offered in the form of marketing assistance, airport fee discounts and waivers, revenue/profit guarantees and/or cost subsidies. Each type of incentive serves as

a different purpose. Profitability based incentives are set up such that if the average operating profit (all passenger related revenues minus direct, variable operating costs) falls below a pre-determined benchmark level, a rebate of the profit difference will be provided to the airline. This rebate can be funded from a trust account that is set up at the beginning of each year's operation. Cost based incentives are set up such that the airport chooses to rebate a portion of the operating costs related to the operation of the flight. This may take form in terms of airport fee rebates (landing/terminal/handling) or cost subsidies. Additionally, the airport may offer guaranteed rates for an extended period of time, as long as a minimum service pattern is maintained.

If risk sharing models are based on one-time support items, the airline may choose to exit the route once the support runs out. The risk sharing agreement needs to be structured so that it includes continual, mutually beneficial terms for both parties beyond the initial time period after the route launch.

To attract commercial air service at YQA, it is recommended that the incentive package be a combination of marketing support and fee rebates to reduce the airline's commercial and financial burden of launching a new market. It will be important that the financial subsidies and marketing support provided is subject to the carrier maintaining a minimum service level at specified flight times for the duration of the season. Moreover, it is essential that the Muskoka community continue to play a key role in marketing and promoting the air service to ensure that its investments into the incentive package yield positive growth in tourism spend and stays in the region.

5 Concluding Remarks

Securing new commercial air service for the first time at an airport requires a detailed market analysis, a comprehensive airline route forecast as well as a robust risk-sharing incentive package. These components are essential for airline network planners to analyze the market opportunity against its other options, to deploy the same target aircraft capacity.

This report – Building the Business Case for Commercial Air Service at YQA - provides stakeholders in the Muskoka community the necessary market analysis and financial forecasts to pursue commercial airline service at YQA. In addition to securing a financial return for the airline and the community, the Business Case must further align with an airline’s overall corporate strategy for market growth. Moving forward to pitch to any airline, RTO12 can incorporate the relevant target’s objectives and how they align with your own stakeholders’.



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