

Feasibility Study for Goderich Municipal Airport (YGD) and Richard W. LeVan Municipal Airport (CPR7) FINAL REPORT

The Corporation of the County of Huron

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EXECUTIVE SUMMARY

The objective of this feasibility study is to evaluate potential opportunities and development projects to diversify revenues, reduce operating costs and improve financial sustainability at Goderich Municipal Airport (YGD) and Richard W. LeVan Municipal Airport (PR7). The Goderich Airport is owned and operated by the Town of Goderich and the Richard W. LeVan Municipal Airport is owned and operated by the Township of North Huron. The report discusses many elements of an airport's operations; this summary focuses on Infrastructure as it's the most expensive element of airports, Site Benchmarking, Development Options, and Marketing. As the report examines two sites, the Executive Summary also considers each.

Operations

Overall, both airports are well operated. They are operated by a small, enthusiastic staff base and handle most of their tasks in-house, which alleviates some potential expenses. The current staff has experience in operating their respective airports. Both airports currently appear to meet the Canadian Aviation Regulations 301 to retain registered status, although for clarity, some of the regulations could be more clearly articulated in the onsite documentation.

We recommend that both airports review their staffing needs and develop a training plan. This would include developing a training manual for all staff at the airport and reviewed with an on-site trainer. This training should include a radio communication component. A training matrix should be available to all staff members to identify what training is required and when recurring training would be necessary or due.

Secondly, it is recommended that both airports review their fueling procedure and spill kits as well as the on-site check sheets. We encourage both airports to enhance these procedures by creating a Standard Operating Procedure (SOP) that would help staff understand the details of the inspection schedule and get familiarized with pump operations.

Infrastructure

Airport infrastructure at YGD will require significant investments in the short-term to rehabilitate Runway 14-32, its taxiway, access road and apron. In total, when adding the estimated costs for edge lighting, the total costs are approximately \$6.2 million. In the long term, an additional \$2.8 million will be required for apron and Runway 10-28 rehabilitation. Additional funds will be needed to upgrade terminal windows, terminal building roof repairs and the purchase of a new furnace. These numbers include contingencies of 22% to 35%.

YGD 10-Year Capital Costs

Cost Items	1-5 Years	6-10 Years
Airfield Infrastructure		
Runway 14-32 Rehabilitation – includes lighting	\$4,660,000	-
Runway 10-28 Rehabilitation – includes lighting	-	\$2,310,000
Taxiway A Rehabilitation – includes edge lighting	\$620,000	-
Apron rehabilitation (new)	-	\$482,000
Apron rehabilitation (old)	\$565,000	-
Cardlock System	\$18,000	
Total airfield rehabilitation costs	\$5,863,000	\$2,792,000
Groundside Infrastructures		
Access Road	\$330,000	-
Airport-owned buildings		
Terminal building – window replacement	\$12,000	-
Maintenance building – roof replacement	\$3,000	-
Maintenance building – new gas furnace	-	\$7,000
Total building costs	\$15,000	\$7,000
Total Costs	\$6,208,000	\$2,799,000

Source: Tetra Tech

PR7 airfield infrastructure is in excellent condition now and there are no major rehabilitation costs anticipated in the next 10 years. Most significant capital costs will be required in the 10-20 year period, allowing time for the municipality to collect an appropriate capital fund.

PR7 20-Year Capital Costs

Items	1-5 Years	6-10 Years	11-20 Years
Airfield Infrastructure			
Runway rehabilitation	-	-	\$2,672,000
Taxiway and apron rehabilitation	-	-	\$434,000
Fuel tanks (replacement based on condition or changing regulation)	-	-	\$75,000
Camera System	\$5,000	-	-
Cardlock System	\$18,000	-	-
Total airfield rehabilitation costs	\$23,000	-	\$3,181,000
Groundside Infrastructure			
Access Road	-	\$121,000	-
Airport-Owned Buildings			
New air conditioner	-	-	\$5,000

New furnace to replace electric heat	-	\$25,000	-
Terminal Building Roof (\$25,000)	-	-	\$25,000
Total building costs	-	\$25,000	\$30,000
Infrastructure upgrades for development concepts			
Taxiway development (hangar concept)	\$160,000	-	-
Helipad development	\$87,000	-	-
Septic System (hangar concept)	\$150,000	-	-
Wells (4) (hangar concept)	\$60,000	-	-
Total development concept costs	\$457,000	-	-
Total Costs	\$480,000	\$146,000	\$3,211,000

Source: Tetra Tech

Benchmarking

To understand how operations of the two airports compare with those at other comparable Southern Ontario sites, Explorer Solutions conducted a benchmark analysis of six other airports. In general, the benchmark analysis pointed to ways in which these two airports in Huron County could potentially increase their revenues in line with standards at benchmark airports. The first column shows the point which is benchmarked, the second discusses the benchmark findings for Goderich Airport, and the second for Richard W. LeVan Airport. The analysis points to a number of areas where the two airports can quickly increase annual revenues.

Recommendations based on Six-Airport Benchmarking

Benchmark Elements	Goderich	Wingham
Parking Fees	Base fees schedule on aircraft weight.	Align fees with benchmark average. Airport should also consider basing its fees structure on aircraft weight.
Landing Fees	No change.	Establish a landing fees schedule similar to Goderich Airport.
Land Lease Rates	Adopt a land lease rate to benchmark average (\$0.3243 / sq.ft). For comparison, Kincardine's rate is at \$0.34 per sq.ft.	Increase land lease to benchmark average (\$0.3243 / sq.ft) for the tenants that are still at \$0.25. Rate is below Wingham's main competitor (Saugeen's rate is at \$0.35 per sq.ft.).
Hangar Lease Rates	No change	Not applicable, all privately owned hangars.
Hangar availability	Look at adding GA hangars	Look at adding GA hangars

Development Options

The Development Options discussion considers long-term revenue options for the two sites. In the table below the second column shows the concepts for each airport, and the third column discusses the timelines for each concept. For Wingham the concepts include sale of agricultural land, developing new GA hangars, growing its RC Jets rally, and fly-in packages for GA pilots. All of these opportunities could be developed within five years. For Goderich the identified opportunities include new GA hangars, multiplex residential development, and attracting scheduled passenger services. These opportunities could also be developed within five years.

Airport Development Opportunities

Airport	Development Concepts	Timeline
Richard W. LeVan Airport	Sale of Agricultural Lands	Year 1 – Land for sale Year 2 – First interest revenues
	GA Aviation Hangars (like Cessna 150, 172, Diamond DA 20, Cirrus 22)	Year 1 – Construction of three (3) 2,500 sq. ft. hangar units (phase 1). First revenues budgeted on Year 2. Year 4 – Construction of four (4) 1,500 sq. ft. hangar units (phase 2). First revenues budgeted on Year 5.
	Growing RC Jets Rally	No specific timeline defined. To be determined by the Township of North Huron.
	Fly-In Packages for GA Pilots	Year 1 – Launch of the marketing and promotional activities. First revenues budgeted on Year 1.
Goderich Municipal Airport	GA Aviation Hangars	Year 1 – Construction of three (4) 1,500 sq. ft. hangar units (phase 1). First revenues budgeted on Year 2. Year 4 – Construction of four (4) 1,500 sq. ft. hangar units (phase 2). First revenues budgeted on Year 5.
	Multiplex Residential	Two (2) multiplex units built every year for a total of 20 units on Year 10. Year 2 – 1 st revenues from the first two units.
	Scheduled Passenger Service	Year 1 – Launch of the air service. First revenues budgeted on Year 1.
	Fly-In Packages to GA Pilots	Year 1 – Launch of the marketing and promotional activities. First revenues budgeted on Year 1.
	Haskap Culture	Year 1 – plantation Year 2 and 3 – Sprouting years Year 4 – First harvests/revenues
	Aviation Commercial and Industrial	Year 1 – Market former Sky Harbour Facility and other building leasing opportunities

20-Year Projections

When consolidating the development options, actual revenues and expenses the financial projections over a 20-year period for each airport demonstrate the feasibility of working toward sustainability.

For PR7

New revenues will allow the airport to generate a surplus in the range of \$1.2 million for the period. Given that the airport infrastructure is in good to excellent condition with no major infrastructure-related costs anticipated within the next 10 years, the surpluses would be allocated to finance airport infrastructure spending, reducing total capital requirements from \$3.4 million to \$2.2 million. One of the key factors impacting the overall financial of PR7 will be the selling price for the AG and NE2 lands and the interest rate on the invested capital. The report budgeted for a selling price of \$17,000/acre for AG lands and \$1,200/acre for NE2 lands. Interest rate was set at 2.75%. If the Township was able to obtain a better selling prices (in the range of \$22,500 for AG lands) and higher interest rate (closer to 5%), it could envision full sustainability of its entire capital management plan.

For YGD

The development plan allows for a greater diversification of revenues and better utilization of the airport lands. The proposed plan would generate \$8.4 million in revenue for \$5.4 million in expenses for an estimated gross profit of \$3 million over 20 years. This Plan would allow the Town to finance a sizeable share of the airport deficit reducing the anticipated 20-year cumulative loss from \$6.1 million to \$517,000. Based on the condition assessment of the airport buildings and airfield, the cost to rehabilitate the infrastructure was estimated at \$8.7 million. When adding those expenditures to the 20-years projections, the total loss for the period amounts \$9.2 million.

YGD may have two ways of working toward full sustainability. The first one would be for the Town to be the sole owner of the haskap farm which would raise profit to over \$16 million and expenses to \$11 million providing an extra \$3 million in revenues. The second one would to look at certification of the airport coupled with scheduled air service to become ACAP eligible and obtain up to 100% of funding for the rehabilitation of the runways, taxiways and apron.

1. Introduction

The objective of this feasibility study is to evaluate potential opportunities and development projects to diversify revenues, reduce operating costs and improve financial sustainability of both Goderich Municipal Airport (YGD) and Richard W. LeVan Airport (PR7). To meet this objective, Explorer Solutions analyzed potential opportunities to reduce financing and operating costs as well as the possibility of generating additional revenue sources by developing aviation and non-aviation projects on airport grounds.

The study must include information on the airport replacement value, life expectancy of the assets and funding that needs to be placed in reserves annually to maintain and replace the asset components at the end of life expectancy. To achieve this result, the report comprises the following deliverables:

- Internal Analysis: State of the Airports;
- External Analysis: Economic Landscape, Consultations and Industry Survey;
- Evaluation of Joint-Procurement Options;
- Airport Benchmarking Analysis;
- Proposed Aviation and Non-Aviation Development Concepts;
- Development Plan;
- Capital Improvement Plan;
- 20-Year Financial Projections;
- Zoning-By-Law Amendment; and
- Conclusion and Recommendations.

The present study is intended to be an action-oriented, working document that identifies the future development of YGD and PR7 in a practical and sustainable manner.

2. Internal Analysis: Current State of the Airports

The analysis of the current state of infrastructure and terminal buildings as well as the review of the Airport Operation Manuals (AOMs), staff and other procedures have allowed us to evaluate the condition of airport assets, its operations and its compliance with Transport Canada regulations.

2.1 Airport Operational Review

2.1.1 Goderich Airport

2.1.1.1 Infrastructure Review

The Goderich Airport is a registered fair size general aviation (GA) facility with three (3) runways, 17 hangar units (11 privately owned and 7 owned by the Town of Goderich), a terminal and all supporting infrastructure (fuel farm, equipment garage, taxiways, ramp).

The main runway (14/32) is 5,034 feet in length and has a width of 100 feet; the second runway (10/28) has a length of 3,002 feet and a width of 50 feet. Both these runways are paved, but only Runway 14/32 has RNAV approaches. The third runway (05/23) is a grass strip of a length of 1,871 feet and a width of 80 feet. The airport is owned and managed by the City of Goderich and is a recognized Airport of Entry for up to 15 passengers and crews (AOE-15) on board the same aircraft.

2.1.1.2 Fuel System and Procedure Review

The fuel farm at the airport offers both AVGAS and Jet-A fuel. The fuel is checked daily by staff. The staff has a spill kit onsite near the fuel pump, which includes kitty litter gravel, socks, absorbent mats, etc., but the location and content of the spill kit are not easily identifiable for an unfamiliar staff member. While checks are being done on the fuel, there are no standard operating procedures on how to carry out fuel inspections or how to order fuel. The fuel farm site is poorly lit for nighttime fueling operations.

2.1.1.3 Operation Review

The overall operation of YGD seems to be handled well. The City has structured its team to share work and responsibilities among various individuals who are fully integrated into the City structure. Public Works staff are used to supplement any staff shortage experienced on site. They are given an operational overview of the airport, and are also required to obtain a radio license. Our research has identified a series of minor adjustments that would improve the overall security and safety at the airport.

Initially, the airport staff is required to receive OLS training that is provided on a cyclical basis. The staff makes efforts to check the OLS and remove the trees and brush that are threatening intrusion. No formal record identifies when the checks are done or how they are being done. No check lists or standard operating procedures are in place to verify and report OLS status.

YGD has an AOM although it is not required for registered airports. This is a best practice to keep. The current manual is content heavy, and some of the information in it is no longer relevant or being practiced. The amendment procedure does not seem to be working as some

information is out-of-date. Transferring the AOM to an electronic format and on a web-based platform may help maintaining and upgrading it.

In the winter the runways are cleared by the staff who work full-time at the airport in accordance with the Snow and Ice Removal Plan (found in the appendix of the AOM). The manager and assistant have historically been sufficient for this work. Currently, there are no Condition Reports being submitted to NAV CANADA although it is identified in the Snow and Ice Removal Plan. We recommend Runway Condition Reporting be added to the tasks of the Airport Manager to inform pilots and aircraft looking to fly in.

The IFR approaches at Goderich Airport are GPS and will no longer be supported by NAV CANADA by the end of 2019. A third-party provider will need to be hired to maintain these approaches. YGD will also have to pay 100% of the expenses of doing so by the end of 2018 in preparation for the 2019 deadline. It could be up to \$ 4,000 per approach annually plus recertification of approaches every four (4) years.

In terms of infrastructure, the airport does not have a preventative maintenance plan in place for ongoing maintenance of the airside infrastructure. Crack sealing activities were performed a few years back, but grass and weeds are growing through cracks and gaps on the ramps. The airport should develop a ten (10) to twenty (20) year maintenance and rehabilitation plan to support capital asset management and assess the required associated funding.

2.1.1.4 Airport Staff Review

The Assistant Manager for Goderich Airport has quite a bit of hands-on experience working at the airport. His experience in his role, as well as time working with the previous Airport Manager has given him a lot of skills that come from doing the job rather than from a formal education. Recently, the long-standing Airport Manager retired and was replaced with a municipal manager responsible for a number of departments. There is a possibility that with the current structure staffing issue may arise during peak snow and summer months.

2.1.2 Richard W. LeVan Airport

2.1.2.1 Infrastructure Review

The Wingham Airport is a smaller facility with one 4,000 foot, paved runway (13/31), three (3) general aviation and commercial hangars and a small terminal building. The airport is registered, owned and managed by the Township of North Huron and is a recognized customs Airport of Entry for up to 15 passengers and crews (AOE-15) on board the same aircraft. The airport is used approximately six (6) months per year by the air cadet gliding program and has a helicopter company (Apex) as the primary tenant using several adjacent hangars. There is one on-site employee who works on a part-time basis.

2.1.1.2 Fuel System and Procedure Review

The airport sells Avgas and jet fuel with onsite tanks. The airport's employee is responsible for fueling activities. The fuel farm has recently been reviewed and updated to industry standard by AGFT. There appears to be adequate signage on the farm identifying the fuel fire hazard and there are several no-smoking signs in place. The airport operator identified that these pumps have three (3) emergency shut offs in place. The air cadets have their own fuel tank that they manage, but the airport operator has no record that they are being maintained to a specific standard. This situation may present an environmental liability issue for the Airport and The Township. Proper legal documents should be in place and avoid responsibility issue if a spill, leak and contamination was to occur.

The airport's fuel is being checked on a daily basis and recorded in a log by the airport operator. The operator is also recording any deficiencies that are found and the remedial actions. The airport identifies a spill kit on site, but only kitty litter like gravel was found as part of the kit.

The Richard W. LeVan Airport is serviced by the North Huron Fire Department. The department has resources and a contractor available to address large fuel spills. Any spill that cannot be contained with the on-site kit would be handled by calling 911 and requesting Fire Department Support.

Comment

There is no mandatory spill kit list for registered airports. Environment Canada monitors certified facilities for compliance with SOR/2008-197 Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations. It is a best practice to align with the certified regulations where possible. The regulation does not identify the components of a spill kit, but states that the operator must define what is required (also echoed in AC301-002).

<http://www.tc.gc.ca/eng/civilaviation/opssvs/managementservices-referencecentre-ac300-301-002-1219.htm>).

Extract from Transport Canada - Emergency Plan

1. **30 (1)** The owner or operator of a storage tank system must prepare an emergency plan to take into consideration the following factors:
 - **(a)** the properties and characteristics of each petroleum product or allied petroleum products stored in each tank of the system and the maximum expected quantity of the petroleum product or allied petroleum products to be stored in the system at any time during any calendar year; and
 - **(b)** the characteristics of the place where the system is located and of the surrounding area that may increase the risk of harm to the environment or of danger to human life or health.
2. **(2)** The emergency plan must include
 - **(a)** a description of the factors considered under subsection (1);
 - **(b)** a description of the measures to be used to prevent, warn of, prepare for, respond to and recover from any emergency that may cause harm to the environment or danger to human life or health;
 - **(c)** a list of the individuals who are required to carry out the plan and a description of their roles and responsibilities;
 - **(d)** the identification of the training required for each of the individuals listed under paragraph (c);
 - **(e)** a list of the emergency response equipment included as part of the plan, and the equipment's location; and
 - **(f)** the measures to be taken to notify members of the public who may be adversely affected by the harm or danger referred to in paragraph (b).
3. **(3)** The owner or operator of a storage tank system must ensure that the emergency plan is ready to be implemented
 - **(a)** in the case of a storage tank system that is installed before June 12, 2008, no later than two years after June 12, 2008; and
 - **(b)** in any other case, before the day on which the first transfer of petroleum products or allied petroleum products into any tank of the storage tank system occurs.

Additionally, there is an Advisory Circular out that highlights that TC recommends the practices set out in the CSA B836-14.

2.1.1.3 Operation Review

The airport operator works part-time, so when he is not there pilots fuel their own aircraft and pay on an "honour system. A review of the AOM was completed, and it aligns with the current operation. The components of the manual were created in line with Transport Canada guidelines. The staff utilizes the manual and could quickly reference its location onsite. Grass around the terminal is cut by the airport operator, but the grass around the airfield surfaces is cut by seasonal employees from public works.

The operator explains verbally to the seasonal employees the rules of the airfield, but this briefing is informal and not recorded. Snow removal is done by the Public Works department. It does not use radios to communicate with aircraft and operators do not have a radio license.

Comment

It is best practice for snow plow operators at airports to have radios and operate them while airside. Having your plow operators announce their presence airside and communicate increases site safety. A lead plow operator with the license could operate as "Snow plow plus 2" and speaks to aviators.

The cost of a license is around \$80-\$100 per license and its one payment only. It takes half a day to study for the license.

Extract from Nav Canada:

2. Surface Condition Reports

The NOTAM manual states that an Airport operator is responsible for the following:
<http://www.navcanada.ca/EN/media/Publications/NOTAM-Manual-EN.pdf>

2.3 Airport Operator

The Airport operator is responsible for providing information to the appropriate FIC or FSS for the issuance of NOTAM for any of the following circumstances:

- Any projection by an object through an obstacle limitation surface relating to the Airport
- the existence of any obstruction or hazardous condition affecting aviation safety within the Airport boundaries
- any change in the level of service at the Airport set out in an aeronautical information publication and pertinent to aviation safety, excluding instrument procedures

- the closure of the Airport or any part of the manoeuvring area of the Airport
- the presence of contaminants on the manoeuvring area, and
- any other conditions that could be hazardous to aviation safety at the Airport.

The Airport Operator shall coordinate with AIM SD Production Planning before requesting a NOTAM for any change. A Surface Condition Report is how you would satisfy this section and registered airports do count as an Airport by definition.

There is no security fencing in place, but there are suggestions of a no cross point next to the terminal building as well as for the private hangars.

The operator does not have a preventative maintenance plan in place for the ongoing maintenance of the pavement.

2.1.1.4 Airport Staff Review

The Wingham Airport's operator has been working on a part-time basis for many years. He is keen to see the airport do well and happy to be there to serve customers whenever required. The Director of Recreations and Facilities is the primary manager and works primarily offsite. Best practice is for ongoing training and retraining of staff and contractors at the airport.

2.1.2 Recommendations

Overall, both airports are well operated. They are operated by a small, enthusiastic staff base and handle most of their tasks in-house, which alleviates some potential expenses. The current staff has experience in operating their respective airports. Both airports currently appear to meet the Canadian Aviation Regulations 301 to retain registered status, although for clarity, some of the regulations could be more clearly articulated in the onsite documentation (see suggestions below).

We recommend that both airports review their staffing needs and develop a training plan. This would include developing a training manual for all staff at the airport and reviewed with an on-site trainer.

This training should include a radio communication component. After training takes place, we recommend follow-up testing be administered and recorded on employee records to verify that knowledge was retained.

A training matrix should be available to all staff members to identify what training is required and when recurring training would be necessary or due. The aviation industry is constantly evolving, particularly where risk and safety management is concerned. We recommend preparing a training budget to accommodate regular staff training on industry and safety management topics.

Secondly, it is recommended that both airports review their fueling procedure and spill kits as well as the on-site check sheets. We encourage both airports to enhance these procedures by creating a Standard Operating Procedure (SOP) that would help staff understand the details of the inspection schedule and get familiarized with pump operations.

This SOP should be available to any Public Works and Airport staff who may be tasked with working at the airport and their name could be added on the training check sheet once they receive the training. The review component of this would be particularly important where there are staff members who infrequently are tasked with work at the airport. Additionally, the SOP's should clearly outline how Canadian Aviation Regulations (CAR) 301.09 are followed. Article 301.09 of the CAR is outlined below:

301.09 (1) Subject to subsection 301.07(12) and subsections (2) and (3), no person shall, while at an Airport, smoke or display an open flame

- **(a)** on an apron;
- **(b)** on an aircraft loading bridge or on a gallery or balcony that is contiguous to or that overhangs an apron; or
- **(c)** in an area where smoking or the presence of an open flame is likely to create a fire hazard that could endanger persons or property.

(2) The operator of an Airport may, in writing, authorize maintenance or servicing operations on an apron that involve the use, production or potential development of an open flame or that involve the production or potential development of a spark where the operations are conducted in a manner that is not likely to create a fire hazard that could endanger persons or property.

(3) The operator of an Airport may permit smoking in an enclosed building or shelter located on an apron where such smoking is not likely to create a fire hazard that could endanger persons or property.

The Airport Operations Manual (AOM) is another document that both airports have adopted. These documents both identify how the airport complies with regulations.

The Wingham AOM is relatively new, but the Goderich Operations Manual has been in place for more than 10 years. This manual is due for a thorough review and amendment. This manual does not have an amendment procedure in place. If this manual is used as a base line for all staff to understand the operation it should be kept current, with no unnecessary content. An AOM is typically reviewed at least once a year. Additionally, in both AOMs it should be clearly identified how CARs are being met.

301.08 No person shall

- (a)** walk, stand, drive a vehicle, park a vehicle or aircraft or cause an obstruction on the movement area of an Airport, except in accordance with permission given
 - **(i)** by the operator of the Airport, and
 - **(ii)** where applicable, by the appropriate air traffic control unit or flight service station;
- (b)** tow an aircraft on an active movement area at night unless the aircraft displays operating wingtips, tail and anti-collision lights or is illuminated by lights mounted on the towing vehicle and directed at the aircraft;
- (c)** park or otherwise leave an aircraft on an active maneuvering area at night unless the aircraft displays operating wingtips, tail and anti-collision lights or is illuminated by lanterns suspended from the wingtips, tail and nose of the aircraft;
- (d)** operate any vessel, or cause any obstruction, on the surface of any part of a water area of an Airport that is to be kept clear of obstructions in the interest of aviation safety, when ordered, by signal or otherwise, to leave or not to approach that area by the appropriate air traffic control unit or flight service station or by the operator of the Airport;
- (e)** knowingly remove, deface, extinguish or interfere with a marker, marking, light or signal that is used at an Airport for the purpose of air navigation, except in accordance with permission given
 - **(i)** by the operator of the Airport, and
 - **(ii)** where applicable, by the appropriate air traffic control unit or flight service station;
- (f)** at a place other than an Airport, knowingly display a marker, marking, light or signal that is likely to cause a person to believe that the place is an Airport;
- (g)** knowingly display at or in the vicinity of an Airport a marker, marking, sign, light or signal that is likely to be hazardous to aviation safety by causing glare or by causing confusion with or preventing clear visual perception of a marker, marking, sign, light or signal that is required under this Subpart;
- (h)** allow a bird or other animal that is owned by the person or that is in the person's custody or control to be unrestrained within the boundaries of an Airport except for the purpose of controlling other birds or animals at the Airport as permitted by the operator; or

(i) discharge a firearm within or into an Airport without the permission of the operator of the Airport.

Considering the different conditions of the airfield pavement at both sites the development of an airside pavement management is recommended, which would include a schedule for crack sealing and plan for handling the inevitable runway rehabilitation required short or long term.

2.2 Airports Infrastructure Assessment

The following section provides an overview and condition assessment of Goderich Municipal Airport and Richard W. LeVan Airport infrastructure. The assessments use visual observations by the inspector and discussions with local airport personnel. A rating is then determined ranging from poor to excellent. When applicable, cost to rehabilitate the infrastructure has been estimated over a five, ten and twenty-year timeframe.

The analysis includes four (4) principal sections:

1. A review and assessment of airport facilities and infrastructure (aircraft operating surfaces; airfield lighting and navigational aids; the main terminal apron and aircraft stands; ground side roads and parking; airport operational areas such as aircraft fueling facilities, aircraft maintenance hangar space) and any other facilities and infrastructure that would be affected by the long-term development of the airport;
2. Identification of deficiencies;
3. Estimate of the asset replacement value and life expectancy; and
4. Determination of the maintenance requirements and funding that is required annually to maintain and replace the asset components at their end of life expectancy.

2.2.1 Goderich Municipal Airport

2.2.2 Access Roads and Parking Lots

The Airport Road and airport access road pavement structure include an asphalt surface (approximately 8 m and 6 m wide respectively). The airport connecting road is located at the intersection of Mill Road and Airport Road.

The main access road, constructed in 1990, terminates at a parking lot located south of the terminal building and a secondary access connects to the Town Maintenance Garage.

Airport Road and the internal airport access roads west of the terminal access road have not been rehabilitated since the original construction and are in generally poor condition. In some areas, asphalt millings were used to improve dust control and to strengthen the underlying gravel structure.


Table 1 - Access Road and Parking Lot Rehabilitation Costs

	1-5 Years	6-10 Years
Main access and parking area rehabilitation	\$330,000	N/A

Source: Tetra Tech

2.2.3 Runways

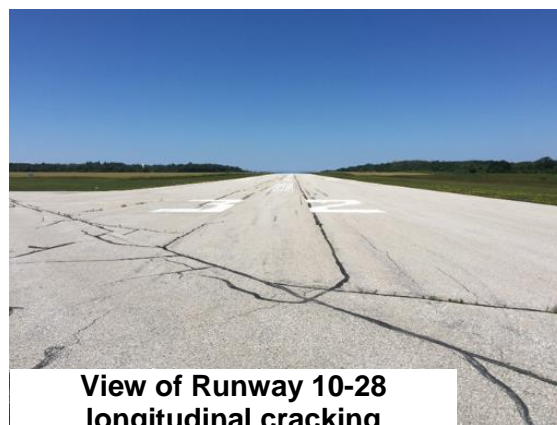
There are three (3) runways at Goderich Airport. In 2008, AMEC conducted a surface condition report for the airfield pavements. It appears that the pavement condition rating has not changed, although it is expected there has been further deterioration over the past ten (10) years. Previous crack-sealing works has minimized further deterioration of the pavement structure, but no annual crack-sealing program is currently in place. Runway 14-32 continues to be rated in generally fair condition. Although, the runway construction did not include edge drains, the overall drainage from the runway appears satisfactory.

GODERICH ON		CYGD	
REF	N43 46 04 W81 42 39 1.5N 9°W (2015) UTC-5(4) Elev 709' A5000 LO6 HIS CAP		
OPR	Muni 519-524-2915 Reg		
PF	B-2 C-3,4,5,6,7		
CUST	AOE/15 888-226-7277 14-22Z† Mon-Fri exc hols		
FLT PLN	NOTAM FILE CYGD London 866-WX-BRIEF (Toll free within Canada) or 866-541-4104 (Toll free within Canada & USA)		
SERVICES	Call out chg for one or more svcs may be levied after hrs. 100LL, JA-1 13-22Z† 15W50 4,5,6		
RWY DATA	Rwy 14(137°/32(317°) 5034x100 asphalt Rwy 14 up 0.45% Rwy 10(099°/28(279°) 3002x50 asphalt Rwy 05(048°/23(228°) 1871x80 turf		
RCR	519-525-2383 12-21Z† dly May-Oct, 12-21Z† Mon-Fri Nov-Apr, O/T ltd hrs		
LIGHTING	10-(TE LO) AP 3.5", 28-(TE LO) AP, 14-AS(TE LO) AP, 32-AS(TE LO) AP ARCAL-122.7 type J		
COMM	ATF UNICOM (AU) ltd hrs O/T tlc 122.7 5NM 3700 ASL		
PRO	Rgt hand circuits Rwy 05 (CAR 602.96).		
CAUTION	Possible wind shear on apch Rwy 14. Ocsd wildlife crossing rwys.		

Runway 10-28 is in poor to fair condition with a series of 50m to 80m long longitudinal cracks in the asphalt surface. There are multiple surface crack sealing and patch repairs throughout the entire runway length. A number of longitudinal cracks are present and not all are crack sealed.

Local patch repairs are de-bonding from the surrounding asphalt and creating transverse 'speed bumps' and potential foreign object damage (FOD) issues. The last crack-sealing contract was 2012.

The paved surfaces have exceeded a normal life cycle and will require short-term rehabilitation, probably in the 5 to 10-year timeframe. In the meantime, it is essential that there is ongoing maintenance that includes asphalt patching for isolated areas. Maintenance of this type may provide for short-term improvements; however, the pavement surfaces will continue to degrade, resulting in further deterioration and possible safety-related concerns (e.g., FOD).



View of Runway 10-28 longitudinal cracking

A longer-term strategy is to resurface the existing paved surfaces. There are a number of construction techniques that can be used, including: asphalt milling to a maximum depth of 30 mm and a 50 mm HL-3 HS surface overlay, or pulverizing the existing pavements, which would include blending the reprocessed material with 200 mm of granular A to a maximum depth of 350 mm. Two (2) lifts of asphalt would then be placed over the granular base (i.e., 150 mm total pavement thickness). Areas of structural failure would be corrected and infield storm water drainage improved.

Ongoing maintenance can lengthen the pavement lifecycle; however, the potential for pavement surface failure (e.g., delamination) can potentially result in flight safety concerns (FOD).

2.2.4 Taxiways and Aprons

Taxiway A connects the main apron to Runway 14-32 at approximately 630m from the 32 end. The taxiway is approximately 45m wide and is moderately weathered and rated in fair to good condition. The main common apron is located north and west of the terminal building. The apron has not been rehabilitated since the original construction and is rated in poor to fair condition.

2.2.5 Navigational Aids

Runways 14-32 and 10-28 include an Abbreviated Precision Approach Path Indicator (APAPI) at each end. APAPI provides pilots with vertical guidance. The APAPI system consists of two (2) light units constructed and arranged in such a manner that a pilot making an approach can determine the aircraft position in relation to the runway surface. The APAPI is operational, and with continued calibration will meet the airport needs over the longer term.

2.2.6 Runway Lightings

Runway 14-32 and 10-28 are equipped with threshold and edge lighting. Pilots using the Aircraft Radio Control of Airfield Lighting (ARCAL) system, when approaching the airport, operate the lights.

The lighting will require replacement at the same time as the runway rehabilitation.

Considering the actual condition of the airfield pavement, major infrastructure work will have to be undertaken within the next five (5) years. Based on a high-level estimate, total rehabilitation cost is in the \$5.6 million range. Table 2 provides the cost breakdown.

Table 2 - Airfield Pavement Rehabilitation Costs

	1-5 Years	6-10 Years
Runway 14-32 Rehabilitation – includes threshold and edge lighting, including APAPI and sub drains.	\$4,660,000	-
Runway 10-28 Rehabilitation – includes threshold and edge lighting, including APAPI and sub drains.	-	\$2,310,000
Taxiway A Rehabilitation – includes edge lighting	\$620,000	-
Apron rehabilitation (new)	-	\$482,000
Apron rehabilitation (old)	\$565,000	-
Total Costs	\$5,845,000	\$2,792,000

Source: Tetra Tech

In addition to the \$5.85 million, it is projected that Runway 10-28 and the new apron will require rehabilitation work in years 6-10.

2.2.7 General Power

Buildings at the airport access 3-phase power connected to the main power lines located along Airport Road. A new substation may be installed in the near future for a local mine expansion.

2.2.8 Terminal Building

The terminal building is approximately 160 m² in size. The building is in generally good condition. In 2003, a heating, ventilation, and air-conditioning system (HVAC) was installed (A/C and gas furnace).

The building basement is fully finished; however, is not being used at this time. Renovations to finish the basement and other upgrades took place five (5) years ago after a small flood in the basement.

The large vista windows were replaced last year. The remaining windows (over half) in the terminal are in poor condition and will need to be replaced in the next five (5) years. There are two (2) private washrooms (male/female), but comments from the staff indicate that the private bathrooms are inadequate during times when multiple pilots and passengers arrive.

The airport electrical room is located in the basement and includes all panels and equipment for both the terminal and airfield lighting systems.

The room is congested and may not have ability for future upgrades. A field electrical center (FEC) may be required for any future airfield electrical upgrades.

The building roof was replaced approximately five (5) years ago and is in good condition. The airport beacon, located at the terminal building, was modified to a strobe last year. Replacing the windows was the only item requiring immediate action in the short-term.

Table 3 - Terminal Building Rehabilitation Costs

	1-5 Years	6-10 Years
Terminal building window replacement	\$12,000	N/A

Source: Tetra Tech

2.2.9 Maintenance Building

The maintenance garage is a single-storey building, approximately 435 m² in size. A hybrid, oil/wood-burning furnace was installed in July 2003. When replaced, the next furnace is expected to be natural gas powered. The galvanized metal roof was last painted five (5) years ago, and is therefore due for another painting.

Table 4 - Maintenance Building Rehabilitation Costs

	1-5 Years	6-10 Years
Maintenance building roof replacement	\$3,000	-
New gas furnace	-	\$7,000

Source: Tetra Tech

2.2.10 Water and Sewer

The water pump house, constructed in the 1940s, is located across from the maintenance garage. There was no information available on the well depth, but the well appears to be working fine. Water is pumped from the pump house to all town-owned buildings within the airport property.

The airport has three separate septic tanks: one for each of the terminal, COPA clubhouse, and maintenance garage.

There are no issues noted for the pump house and septic tank operations.

2.2.11 Airport-owned hangars

The town owns a 680m² hangar that is maintained by the airport and leased to private owners. The building is a pole barn construction with gravel floors. There is no climate control or separation between any of the hangars. The building is in fair condition, and no major maintenance is required.

2.2.12 Other Observations

The overall storm water drainage at the airport is adequate; however, many of the ditches are overgrown with vegetation and will require regrading to improve flows.

Storm water runoff eventually leads to the river through a storm sewer system that was built at the same time as the airport, in 1990.

There is one known species of endangered snakes that reside on the airport property; therefore, all constructions must consider species at risk species regulations and work closely with regulatory bodies whenever undertaking large construction projects.

The airport has easy access to topsoil for maintenance purposes. There is a large stockpile off Runway 14-32.

2.3 Richard W. LeVan Airport

2.3.1 Access Roads and Parking Lots

The airport access is via the 6m wide Clegg Line that connects to Amberley Road. The access roads are in generally good condition. There is no requirement for major roadway construction in the near future.

2.3.2 Runway, Taxiway and Apron

There is one runway at the Wingham Airport: Runway 13-31 (asphalt). The runway was milled and paved ten (10) years ago. The Town has scheduled line painting for this year. Observations show minor longitudinal cracking. There are no crack sealing programs done at this time.

The runway is not equipped with edge sub drains, but there is no evidence of water ponding or drainage issues. The airport is located on higher ground than the surrounding area and therefore experiences naturally good drainage.

The runway, taxiway, and apron are rated in excellent condition.

Nevertheless, in the long term, the runway, taxiway/apron and fuel tanks will require rehabilitation. For capital management purposes, it is estimated that rehabilitating these three items would cost \$3,106,000. See the detailed costing in Table 5.

WINGHAM / RICHARD W. LeVAN ON

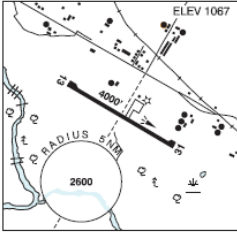
REF	N43 52.03 W81 17.55 1SE 9°W (2013) UTC-5(4) Elev 1067' A5000 LO6 CAP	
OPR	The Township of North Huron 519-357-7991 Reg	
PF	A-1 B-1 C-2,3,4,5	
CUST	AOE/15 888-226-7277 14-22Z† Mon-Fri exc hols	
FLT PLN	NOTAM FILE CYGD	
FIC	London 866-WX-BRIEF (Toll free within Canada) or 866-541-4104 (Toll free within Canada & USA)	
SERVICES	A/D not attended, ctc opr.	
FUEL	100LL, JA	
OIL	15W50	
RWY DATA	Rwy 13(130°)/31(310°) 4000x75 asphalt	
RCR	Opr Ltd win maint	
LIGHTING	13-(TE ME), 31-(TE ME) ARCAL-123.0 type K	
COMM	ttc 123.0 3NM 4000 ASL	
ATF		
PRO	Rgt hand circuits Rwy 13 (CAR 602.96).	
CAUTION	2 silos 80 AGL NE thld Rwy 31. Numerous twrs in vic. Wildlife ocal on rwy. Glider activity in the vicinity of A/D Sat-Sun & hol(s) Apr-Jun & Sep-Nov.	

Table 5 - Wingham - Runway & Taxiway rehabilitation costs

Airfield Rehabilitation	Cost
Runway rehabilitation	\$2,672,000
Taxiway and Apron rehabilitation	\$434,000
Fuel Tanks	\$75,000
Total	\$3,181,000

Source: Tetra Tech

This rehabilitation work will probably be required in a 15-20 year timeframe.

There is a 6,400m² apron at the terminal. A 3m by 3m jet parking pad is located on the main apron, presumably because the pavement load rating for the apron does not meet the “typical” jet aircraft load rating requirements.

2.3.3 Groundside Rehabilitation

The airport’s access road is in good condition, but will require rehabilitation in a 10 to 15-year timeframe. The rehabilitation costs are estimated at \$121,000.

2.3.4 Navigational Aids and Runway Lighting

The airport is equipped with an illuminated wind sock. The airport has a GPS RNAV Approach.

Runway 13-31 is equipped with threshold and edge lighting. Pilots use the Aircraft Radio Control of Airfield Lighting (ARCAL) system when approaching the airport to operate the lights. The lighting will require replacement at the same time as the runway rehabilitation.

2.3.5 Terminal Building

The terminal building is a prefabricated building constructed in 1996 and is approximately 160m² in size. The building is in generally good condition. In 2013, the airport installed a new air-conditioning system. The building is electrically heated. The building includes four (4) offices, two (2) of them are unoccupied, one is rented and the last one serves as a customs office when needed; two (2) washrooms; and an electrical room. Also, the terminal has internet fibre connection and available hook up to the hangars at the owner’s expense. The line currently runs to the north end of the taxiway for hangar access.

The roof of the terminal building is flat and the airport was required to completely replace the roof due to leaks in 2015. The airport should budget \$25,000 for future repairs or the replacement of the roof. This should occur in approximately 20 years.

In 2025, the airport will need to acquire a new furnace to replace electric heat for a cost of \$25,000. In addition, the terminal will need to replace its air conditioner in approximately 15 years for a cost of \$5,000.

The terminal includes an unfinished basement. A sump pump is located in the basement to manage potential water accumulations in the basement. A UV water purifier is also located in the basement space. The building is in very good condition.

2.3.6 Water and Sewer

Water for the terminal and hangars is provided through a well. There is no gas or water service to the terminal. It is understood there are service lines in the proximity of Amberley Road. The terminal washrooms drain to a septic system that was cleaned out last summer.

2.3.7 Other Observations

The airport owns two (2) fuel tanks located on the main apron: one 4,000L Avgas and one 10,000L Jet A. The tanks are not card operated.

Our team analyzed the option to install a Cardlock system in order to improve the unattended fueling process. The company Aviation Ground Fueling Technologies (AGFT) has provided two alternatives:

- **System 1 (Full System):** This Cardlock includes full fleet card/credit card/debit card capabilities. The Avgas system would need a meter upgrade to produce a digital signal. This first system also includes a “Chip & Pin” component (read debit and credit cards) for a monthly fee of \$225.
 - **Cost overview:**
 - Main terminal: \$30,000
 - Avgas System (meter upgrade that produce a digital signal): \$6,500
 - Labour and Electrical: \$6,000
 - Total of \$42,500 plus \$225 per month
- **System 2 (Basic System):** Compared to the Full System, this Cardlock can only read fleet card (internal sales only, no credit or debit card capabilities). This system is less expensive and does not involve monthly fees.
 - **Cost overview:**
 - Main terminal: \$12,000
 - Labour and Electrical: \$6,000
 - Total of \$18,000

Considering those two systems and the average annual fuel sales we recommend to Wingham airport to maintain its honor base system at this stage. When fuel sales grow significantly, the airport should re-evaluate the financials and potentially select one of the above systems.

2.4 Airports Operations and Budget Review

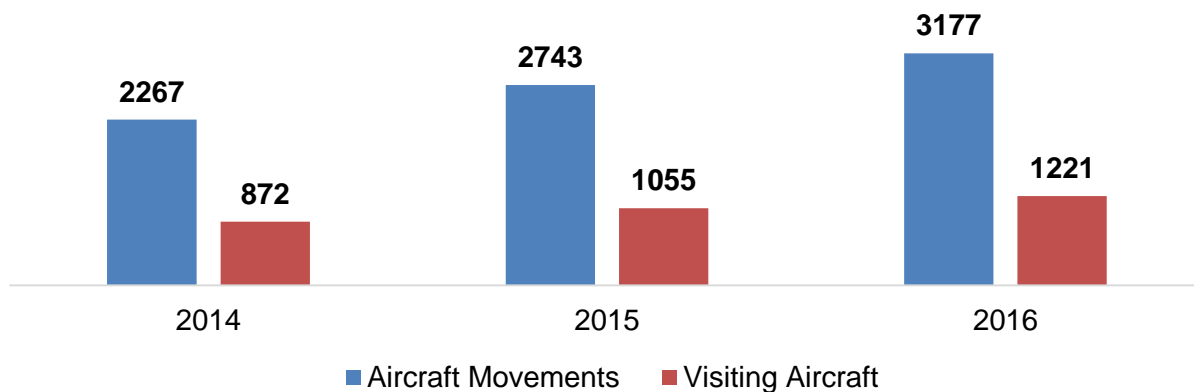
This section provides an overview of the airport activity, the number and type of tenants based at each airport. The section also analyzes both airports budgets and discusses potential areas for reducing expenses and increasing revenues.

2.4.1 Goderich Municipal Airport

2.4.1.1 Airport Activity

The information provided by the airport staff gives a good overview of the traffic growth in the last few years. The following figure presents the total aircraft movements and the number of visiting aircraft per year.

Figure 1 - Annual aircraft movements and visiting aircraft (2014 to 2016)



The airport has seen continuous growth over the last few years. Between 2014 and 2016, the total number of aircraft movements increased respectively by 29%, and 28.5% for the transient aircraft segment.

2.4.1.2 Tenants

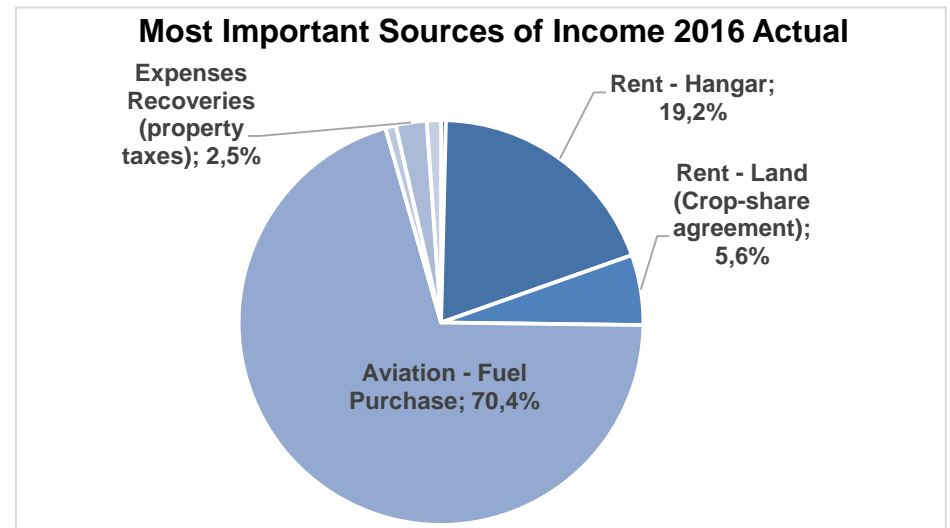
The airport currently has a total of 18 hangar units, 11 are privately owned and 7 are owned by the Town. All the hangars are currently occupied.

2.4.1.3 Budget Review

This section analyzes the current financial situation of the airport with the aim of identifying deficiencies, gaps and areas of improvement. The 2016 budget actuals provided information on Goderich Airport's ability to generate income and which activities are contributing the most to the operating income. This exercise was followed by a complete review of airport expenses.

Revenue Breakdown Analysis

Income items	2016 Actual	% of total
Aviation - Fuel Purchase	\$ 82 686	70,4%
Rent - Hangar	\$ 22 579	19,2%
Rent - Land (Crop-share agreement)	\$ 6 586	5,6%
Expenses Recoveries (property taxes)	\$ 2 894	2,5%
Rent - Equipment (weather station)	\$ 450	0,4%
Aviation - Parking and Landing Fees	\$ 996	0,8%
Other	\$ 1 326	1,1%
Total 2016 Revenues	\$ 117 516	



As we can see from the numbers, three (3) income items – fuel sales, hangar and land leases represent more than 95% of all airport revenues. Revenue generated in 2016 through the crop-sharing arrangement with a local farm for the use of 22 acres of agricultural land, brought \$6,586 in 2016 compared to \$16,000 in the previous year. 2016 was low compared to previous years, and the Town of Goderich forecasts that \$9,500 will be generated in 2017. This agreement was signed in 2001 and has not been revisited since. Among the other items, landing fees and parking fees total less than 1% of all sales followed by equipment rental and other sources. The town also recovers around \$2,500 in property taxes from ACW Township, which account for approximately 2.5% of total revenues. In all, 2016 actual revenue amounted to \$117,516.

The key takeaways from this analysis are the lack of a diversified revenue base, as the Airport relies heavily on fuel sales and hangar rentals. Of note is the low amount (\$996) generated by aircraft landing and parking fees. Maintaining and growing the level of revenue from fuel sales, land lease and landing fees along with identifying ways to develop new/alternate sources of incomes will be key to strive toward more financial sustainability.

Recommendations for Increasing Revenue

Recommended concepts in Section 7 will help the airport diversify its revenues so it relies less on current sources of incomes. That being said, some actions could be undertaken rapidly to adapt its fee schedule so it generates more dollars from its aviation traffic including:

- Basing parking fees on aircraft weight rather than having fixed rates per aircraft type. This change would allow the airport to increase revenue from the large business aircraft category. This client segment is less concerned with paying airport fees than recreational pilots;
- Establish a land lease rate for use of airport lands for aviation activities. The rate could be fixed at \$0.32 per square feet/year for all privately-owned buildings that sit on airport property. It should include both general and commercial-aviation hangars. Recommended rates corresponding to the benchmarked average of comparable airports in Ontario (see Section 5.).

As for the other fees, the pricing structure is pretty much in line with the surveyed airports.

Expenses Breakdown Analysis

Overall, the airport is well managed and expenses are under control. Employee salaries and benefits represent respectively 34.8% and 19% of total expenses, which is consistent with industry standards. Given the size of the airport, it is typical that almost 50% of all expenses are allocated to human resources. Transfer to Reserve Fund corresponds to 19% of 2016 expenses. The \$75,000 annual reserve fund contribution will serve for the reconstruction of the runway. Fuel sales come in fourth place with 21% of all expenditures.

The airport generates a 43% margin from its fuel operation, which is higher than comparable airports. Regional and municipal airports in Ontario tend to add a 25-35% fuel markup. Although, from the feedback received during the consultation it does not seem that the higher margin hindered fuel sales. We recommend maintaining the current markup.

Expense items	2016 Actual	% of total
Salaries	\$ 116 999	30%
Transfer to Reserve Fund	\$ 75 000	19%
Benefits	\$ 38 626	10%
Aviation Fuel	\$ 58 139	15%
Utilities	\$ 13 554	4%
Principle Repayment	\$ 12 500	3%
Insurance	\$ 10 096	3%
Machine and Equipment - R&M Services / Supplies	\$ 9 671	3%
Machine and Equipment - Lease/Rent	\$ 8 725	2%
Vehicle	\$ 7 392	2%
Capital - Equipment & Machinery (depreciation)	\$ 5 380	1%
Property Taxes	\$ 5 120	1%
Building - R&M Services / Supplies	\$ 4 900	1%
Bank Charges	\$ 3 995	1%
Runway - R&M Services / Supplies	\$ 3 484	1%
Office and Equipment - R&M Services / Supplies	\$ 1 618	0%
Tooling and Supplies	\$ 3 077	1%
Telephone/Internet/Postage	\$ 2 004	1%
Conferences and Training	\$ 1 884	0%
Legal	\$ -	0%
Membership, Meetings and Travel	\$ 997	0%
Other	\$ 2 186	1%
Total Expense	\$ 385 348	

Recommendations for Cost Reduction

Analysis has not identified any big ticket items for which expenditures were notably high compared to industry averages. However, when analyzing YGD operating cost structure, we found that relatively high funds were disbursed on two (2) budget items:

77450 – Insurance (\$10,085)

73200 – Bank Services and Charges (\$3,816)

The two (2) above elements represent almost 4% of the total budget expenses for a total of \$13,901. For an operation of the size of Goderich airport, with \$117,516 in revenues, banking charges correspond to fees usually paid by a \$1M per year business. As for insurance, the \$10,085 charge seems also high for the size and scale of the Goderich airport operation. We recommend verifying with other institutions the cost of insuring the airport.

Comment

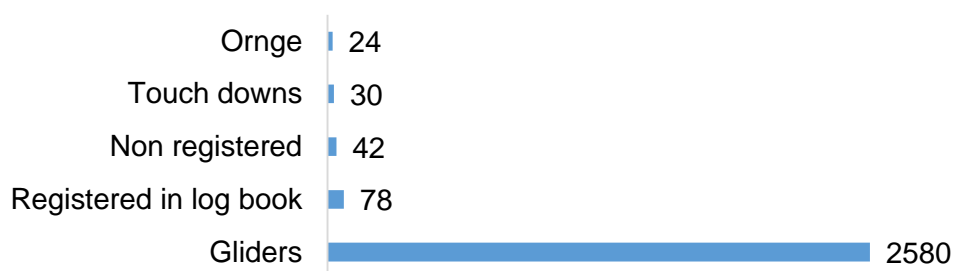
YGD drives an average deficit of \$ 200,000 annually. If the objective is to reduce this deficit, the Airport could consider the closing of Runway 10-28 and turning it into a taxiway. This decision would reduce operation, maintenance and rehabilitation costs. Another avenue is growing aviation and non-aviation revenues. Section 7 presents a few opportunities.

2.4.2 Richard W. LeVan Airport

2.4.2.1 Airport Activity

Information provided by the airport staff was segmented by aircraft categories. As shown in the following figure, the airport registered 2,754 movements in 2016.

Figure 2 - Aircraft Movements by aircraft categories



The airport keeps records of the Ornge and Glider movements. The other categories are based on traffic estimates made by the staff. With a total of 2,754 movements, Gliders represents 93.6% of the airport's traffic.

2.4.2.2 Tenants

The Wingham Airport currently has three (3) hangars. All of these hangars are privately owned. Two (2) of the three (3) are occupied by a helicopter company offering surveillance, monitoring

and spraying services. The third one is owned by a local general aviation pilot and used for aircraft storage.

2.4.2.3 Budget Review

Revenue Breakdown Analysis

As opposed to Goderich, the Wingham Airport property has a lot of available land with 449 acres. The airport is renting 230 acres of land to a local farmer at \$260 an acre (\$59,800 per year), accounting for 61% of 2016 revenue. The airport also has lease agreements in place for the three (3) privately owned hangars and with the cadets program that generates an additional \$7,813 in revenue. Besides land rentals, fuel sales account for almost a third of total revenue. Is it important to note that net revenue generated on gross fuel sales (\$28,468) totals only \$5,477. This amount does not even include the cost for fuel tank maintenance.

As we did for Goderich Airport, the following figures represent the 2016 actual revenue breakdown for Wingham Airport. Table and figure show below compare gross revenues and not net values.

Income items	2016 Actual	% of total
Rent - Farm Land	\$ 59 800	61,0%
Aviation Fuel	\$ 28 468	29,1%
Rent - Hangar Land Lease	\$ 2 897	3,0%
Cadet Lease	\$ 4 116	4,2%
RC Jet Event Lease	\$ 395	0,4%
Tie Downs	\$ 340	0,3%
Grants	\$ 1 942	2,0%
Total 2016 Revenues	\$ 97 958	

Recommendations for Increasing Revenues

Wingham Airport generates sufficient revenues to cover its expenses. Proposed development concepts found in Section 7 will further improve Wingham's financials, but immediate actions could be undertaken to increase revenues from existing activities. Here are some suggestions:

- Basing parking fees on aircraft weight rather than fixed rates per aircraft type. Parking fees should also be slightly increased and aligned with the benchmark average (see section 5.);
- Establish a landing fees structure similar to the one in effect at Goderich Municipal Airport. Landings are actually free of charge at Wingham whether you are a small piston aircraft or a business jet. Wingham should consider charging \$45.00 per 1,000 lbs for aircraft weighting between 5,800 lbs and 12,500 lbs, and \$75.00 for aircraft over 12,500

lbs. Those weight categories correspond to medium-size turboprops and jet aircraft. Landings fees could be waived with 200L or more of fuel purchase. To support collecting the landing fees, we introduced an automated system (automated cameras) option in section 5. The proposed system would respond to the airport need for a low cost yet effective way to track aircraft landing.

- Wingham Airport's land lease rate is actually at \$0.25 per square foot, which is \$0.07 below the average of comparable airports. Benchmarking analysis found in Section 5 shows that the average lease rate was in the \$0.32 per square foot range for small Ontario airports. Raising rates to \$0.32/sq.ft. would allow Wingham to generate additional leasing revenues while still being competitive. It is important to mention that the airport already modified the rate in that regard. More precisely, Apex is paying \$0.33 per sq.ft. for its two hangars. The other current and future tenants should follow that rate.

As for the other fees, pricing structure is pretty much in line with the surveyed airports.

Expenses Breakdown Analysis

As we can see from the numbers, CPR7 spending does not total \$100,000 per year, which demonstrates that great deal of efforts have been made at reducing expenses. The airport is operated by a part-time employee, limiting salary expenses to less than \$20,000 in 2016. All other expenditures are under control.

Transfer to Reserve Fund corresponds to 14% of 2016 expenses. Fuel ranks first with 24% of all expenditures. The airport generates a 24% margin from its fuel operation. We believe there is room for increasing fuel mark-up to maybe as high as 30-35% for transient traffic so it would more aligned with Goderich's pricing structure.

Expense items	2016 Actual	% of total
Aviation Fuel	\$ 22 992	24%
Salaries	\$ 18 651	19%
Transfer to Reserve	\$ 13 000	14%
Utilities	\$ 8 847	9%
Building - R&M Services / Supplies	\$ 8 002	8%
Taxes	\$ 6 669	7%
Insurance	\$ 5 820	6%
Snow Plowing	\$ 5 265	5%
Contracted Services	\$ 2 398	3%
Benefits	\$ 1 651	2%
Telephone/Internet	\$ 1 373	1%
Membership, Meetings and Travel	\$ 806	1%
Office and Equipment Supplies	\$ 366	0%
Conferences and Training	\$ -	0%
Legal	\$ -	0%
Other	\$ 51	0%
Total Expense	\$ 95 890	

Recommendations for Cost Reduction

The airport operation is breaking even and showed a small profit of \$2,068 in 2016. Leased land to the local farmer and strict control of expenditures are the factors contributing to the airport's good financial situation. Budget review has not identified any potential areas where savings could be achieved without impacting the airport's ability to deliver services.

3. Evaluation of Shared Procurement Options

This section examines the potential for shared procurement of services between Goderich Municipal Airport operated by the Town of Goderich and Richard W. LeVan Airport operated by the Township of North Huron. The section discusses the range of potential shared procurement, best practices for shared procurement for airports and options and recommendations for the sites.

3.1 Multi-Airport Operations

In Canada, there are a number of jurisdictions that operate more than one airport, but this is uncommon. (As the similarities are not apparent, the federal and provincial airport systems have not been considered as they do not appear comparable.) Edmonton Airports operated three (3) GA airports in addition to Edmonton International, and the Alberni-Clayoquot Regional District (ACRD) in B.C. operates the Tofino-Long Beach Airport (YAZ) (certified) and the Alberni Valley Regional Airport (AVRA) (registered). In the case of the ACRD, the following measures are used to share resources:

- One manager oversees both sites.
- Where possible, equipment and materials are bulk purchased.
- Equipment bought for YAZ is used to the benefit of AVRA. The two (2) airports are 1.5 hours apart, or 103 km.
- Trucks from YAZ are moved to AVRA for plowing so that both sites do not require a large truck.

In other cases, multiple, small regional airports will pool resources to purchase bulk resources such as de-icing chemicals or sand. These are generally one-time agreements between airports.

3.2 Potential Areas of Cooperation

An overview of the operations and services at Goderich Municipal Airport (YGD) and Richard W. LeVan Airport (PR7) is provided in the table below to give a sense of activity. The two sites are

approximately 47 kilometres apart, and a little over half an hour apart. The distance makes sharing resources potentially awkward but not impossible. Both are registered GA airports. YGD has an on-site Manager while PR7 day-to-day operation is ensured by a part-time resource. The City of Goderich has stated that it does not want to consider sharing staff as its staff is fully integrated in the Town's human resources structure.

Table 6 - Airport Comparison

	Goderich Municipal Airport	Richard W. LeVan Airport
Governance	City owned and operated	Township owned and operated
Management	Municipal manager on-site. Manager works for Public Works department. He's also in charge of other services.	Part-time municipal manager. Oversees airport administration. A part-time resource ensures a presence on-site.
Staff	Municipal employee	Part-time employee (Municipal employee)
Budget	\$368,000 in expenses, 2017	\$100,000 in expenses, 2017
Traffic	3177 movements, 2016	2754 movements, 2016
Fuel	Jet A, Avgas \$58,000 in expense in 2016	Jet A, Avgas \$23,000 in expense in 2016

Information gained through our discussions with airport staff, municipal authorities and airport users combined with the results of the comparison analysis indicate potential areas of cooperation between the Goderich and Wingham Airports. Opportunities based on the scale of operations and type of activity at these sites includes:

- Joint purchasing of bulk materials such as fuel, sand, runway de-icing fluid and other materials and equipment.
- Joint purchasing of professional services, such as engineering.
- Sharing equipment on an as needed basis, particularly in case of a breakdown or malfunction.

In the case of the first two (2) items it is assumed that the two (2) airports combined may be able to achieve price discounts, which they would be unable to receive on their own. Of course, it is recommended that the cost-effectiveness of each potential initiative be considered on a case-by-case basis.

3.3 Mechanisms for Working Together

The recommended mechanism for the City of Goderich and North Huron Township working together on shared procurement is an MOU. The MOU would lay out the principles for the two

(2) organizations to work together when it was deemed in their best interests without binding either party to joint purchasing. This approach is standard for municipal cooperation.

3.4 Supporting Management Excellence and Airports Compliance

Both Goderich Municipal Airport and Richard W. LeVan Airport are registered. In Canada, there are two (2) types of airports, certified and registered. Certified airports have a higher administrative burden. Airports with scheduled charter services, in built-up areas, or where the Minister thinks it's in the public interest, must be certified. Certified Airports are subject to regular Transport Canada inspections and must have both an Airport Operations Manual (AOM) and a Safety Management System (SMS). These are significant management documents that require updating on a regular basis. Registered airports do not require these documents. While not required, both Goderich Municipal Airport and Wingham Airport have an AOM, a good practice.

Aiming for a higher level of management practices than the minimum requirement is recommended, as in the case of the Goderich and Wingham AOMs. The airports have environmental, safety, and business risks. To manage these risks, it is recommended that both airports set higher than necessary minimum requirements. This is true because neither of the sites has a manager who is a trained airport professional.

For Wingham and Goderich, potential methods for increasing the standards include:

- Having annual or biannual (every second year) site inspections. These could be high level reviews of fuelling, ramp and equipment operations, and service standards to ensure that operations are standardized and in line with modern airport standards. The review will have to be performed by an aviation expert knowledgeable of Transport Canada regulations and airport operations.
- Hosting annual meetings between airport personnel at the two (2) airports to compare notes and information. This would require support from both airport's owners.

4. External Analysis: Economic Landscape, Consultations and Industry Survey

4.1 Market and Economic Landscape

4.1.1 Geography of Huron County



Located in the south-central quadrant of Ontario and bordering Lake Huron, Huron County is composed of nine (9) municipalities, (and within them 56 communities) which totaled 59,297 people in 2016. The County's main center is Goderich with a total population of 7,628 in 2016. The other eight (8) municipalities have a population ranging from 3,413 to 9,945 people, living mostly in a rural setting.

Major highways in the area include Highway 4 and Highway 8, which respectively link London and Kitchener to Goderich. Other major roads are Highway 21 and Highway 86. Wingham is located at the intersection of Highway 4 and 86, which link to Waterloo and London directly. The region is also accessible by railway, water and air transport (charter flights, no regular passenger service). Huron County is within 2 hours drive of U.S. border crossings that leads to Michigan (Sarnia) and 3 ½ hours to Windsor (Detroit, MI) and Niagara Falls (Buffalo, NY). Also, Goderich is located three (3) hours west of Toronto without traffic and to/from Wingham, the drive is less than 20 minutes.

4.1.2 Local and Regional Socio-Economic Outlook

As part of the 2016-2020 Economic Development Plan, the Huron County Economic Development identified seven (7) key growth sectors, which include Agriculture, Tourism/Culture/Arts, Education, Manufacturing, Health, Information Technology and Retail. The county also has the following objectives¹:

- 1) Focus on developing specific opportunities and initiatives that lead to investment, jobs and tax revenue;
- 2) Align with the efforts of municipalities across the county; and
- 3) Engage a broader group of stakeholders across the county (i.e. business groups, other government partners, etc.).

Using these main objectives, the Economic Development Department developed a SWOT analysis addressing local strengths, improvement areas and opportunities. Among the region's strengths identified, economic stability, competitive business environment and tourism attractions ranked first.

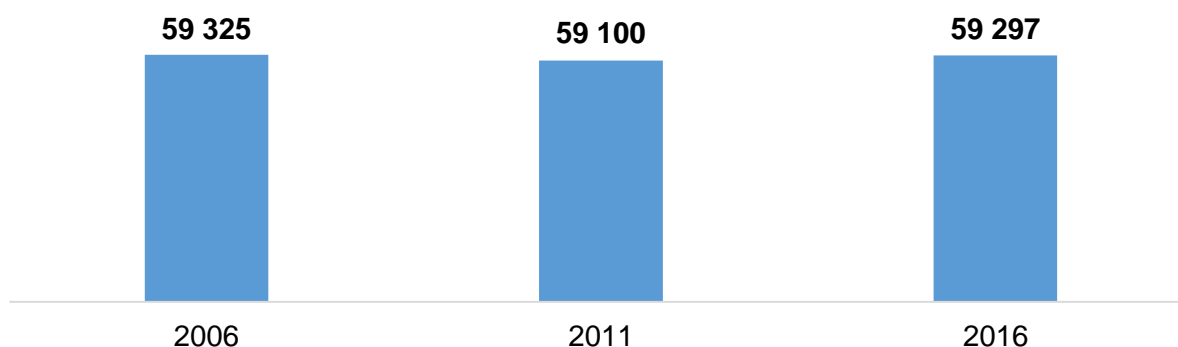
¹ <https://www.huroncounty.ca/economic-development/new-strat-plan/>

On the other hand, a tightening labor market, some misalignment between workforce supply and demand, and the lack of effort to develop new sector opportunities were seen as the key weaknesses of the region. The County identified that expanding trade deals will provide agriculture and agri-food opportunities and that niche manufacturing may be developed if labour issues are addressed. Specifically, labour issues include the difficulty to find qualified labour, especially in the manufacturing sector, and encourage youth to return/stay within the County.

4.1.3 Socio-Economic Data

Population is an important consideration of any workforce. The following figure depicts demographic trends in the County, which remains relatively stable in the last few years:

Figure 3 - Huron County Population Growth



From 2006 to 2011, the County saw its population slightly decrease by 0.4%, and from 2011 to 2016, a slight increase of 0.3%².

Considering most recent data, the number of employers within the county increase by 12% in only one year (2012 to 2013) going from 6,110 to 6,859 registered companies³. Most of this augmentation is due to micro businesses (self-employed or 1 employee), which went from 3,699 to 4,372 between 2012 and 2013.

Compared to neighboring Counties (Bruce and Grey), Huron County's (2016) unemployment rate is below the regional average (by 2-3%), reaching 4% for the 45 to 64 years population, but as high as 11% for the 15 to 24 years.

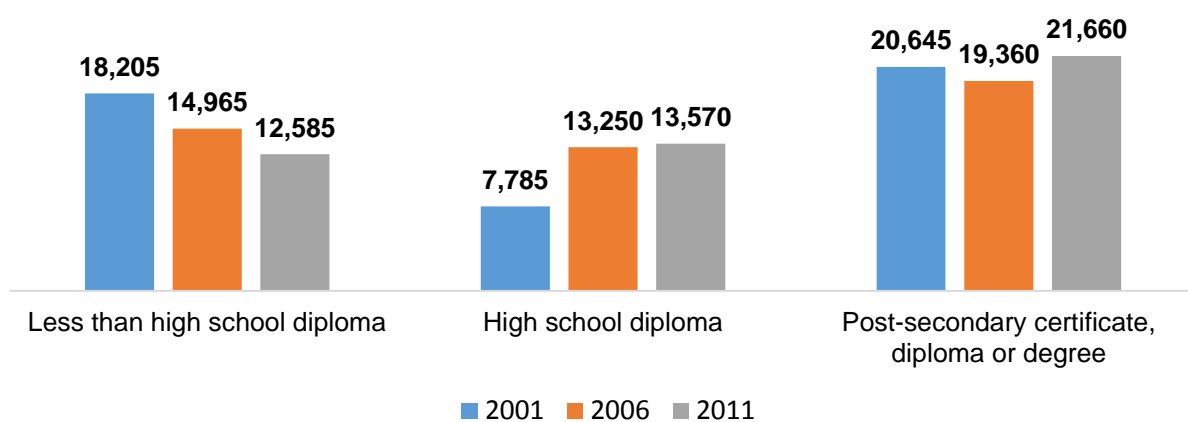
² <http://perthhuron.unitedway.ca/wp-content/uploads/2014/01/Labour-Market-Trends-Opportunities-and-Priorities.pdf>

³ IDEM

For the South Central Ontario region, the unemployment rate was 4.71% in 2016. In terms of active labor force, numbers have almost not budged over a decade, increasing by only 0.22% from 31,455 to 31,525 workers between 2001 and 2011.

On the education side, the number of people with high school and post-secondary diplomas has substantially increased in the past decades. The following figure depicts the progress made by students, especially at the high school level⁴. From 2001 to 2011, there was 42.6% increase of people holding a high school diploma.

Figure 4 - Education level overview (population 15+ years old)



The housing market has also seen strong increases in the past decade. The 2013 and 2016 Huron Residential Sales Analysis show the positive progression in terms of average sale price and number of sold residential dwelling. In 2013, Goderich sold 111 residential dwellings at an average price of \$212,168 (with a 120 days average sale period). In 2016, Goderich sold 130 residential dwellings at an average sale price of \$245,336 (with a 79 days average sale period). This represents an increase of 19 additional sold dwellings and an increase of 13.5% in dwelling value from 2013 to 2016.

In 2013, Wingham sold 35 residential dwellings at an average price of \$158,748 (with a 156 days average sale period). In 2016, Wingham sold 56 residential dwellings at an average sale price of \$172,935 (with a 97 days average sale period). This represents an increase of 21 additional sold dwellings and an increase of 8.2% in dwelling value from 2013 to 2016. Also, it is important to note that both communities saw their average sale period drastically decrease. These figures demonstrate that the real estate market had recently experienced strong growth.


⁴ <http://perthhuron.unitedway.ca/wp-content/uploads/2014/01/Huron-County-2013-Employment-fact-sheet.pdf>

4.1.4 Educational Institutions in Aviation and Aerospace

This section briefly summarizes some of the main aerospace/aviation education initiatives in Huron County and neighboring regions. It also examines the region's academic institutions and research and development initiatives. Identified programs may create opportunities for Goderich and Wingham airports to partner with aviation schools on training and education. Table 7 lists aviation/aerospace institutions in the County of Huron as well as other prominent colleges offering aviation programming further south. Institutions highlighted in light blue are located within the Huron County.

Table 7 - List of Aviation and Aerospace Academic Institutions

Pilot Education	Training	Program Descriptions	Location
		This center offers a large array of program and courses from recreational to commercial pilot licenses. They also welcome international students, offer courses year-around and propose UAV pilot training.	Waterloo
		Huron Flight Centre offers stand-alone private pilot licenses, Commercial Multi IFR Program and Float Rating Program. The Centre is affiliated with the Canadian Aeronautical Flight College.	Sarnia
		The Owen Sound Flight Service offers a large array of services from charter, sightseeing, and of course, flight courses for beginners and advanced pilots.	Owen Sound
		Forest City Flight Centre offers a ground school, recreational licenses, private licenses and instrument rating. The organization also offers aircraft rental and a pilot store.	London
		ITPS specialized in the military segment. They offer avionics, tactical, UAS and civil training from the London International Airport.	London

Other Aerospace and Aviation Courses	Program Descriptions	Location
 FANSHAWE	Fanshawe Aviation Centre is located at the London International Airport. Students have the chance to work on Boeing 727 and a large variety of fixed wing aircraft and helicopters. The school offers 8 full programs ranging from Drone Operations, Aircraft Structural Repair and Aircraft-Avionics Maintenance. Note that the institution has a satellite office in Goderich, but is not offering aviation classes.	London
 UNIVERSITY OF WATERLOO	Aviation at the University of Waterloo is relatively new, yet they have quickly grown to become the largest university-level aviation program in Canada. The university offers the Aviation Program through two faculties, which are Environment and Science Faculties, both including the Commercial Pilots Licence.	Waterloo
 CONESTOGA Connect Life and Learning	This pilot training program is the only collaborative diploma program that offers students a choice between flying airplanes at Waterloo Wellington Flight Centre or flying helicopters at Great Lakes Helicopter. Through pilot training at one of the flight centres and classes at Conestoga College, students can complete the Aviation - General Arts and Science diploma in only two years as well as the pilot training to allow them to undertake the Transport Canada commercial pilot license testing.	Kitchener

Key takeaways

Huron County, being mostly comprised of rural municipalities, doesn't have large population centers to supply large cohorts of students to Universities and Colleges. We noted that many large flight schools are located south of Huron County, especially in Waterloo and London areas. Also, various colleges offer comprehensive courses in aviation. Similar to the flight schools, they are located south of Huron County. Even if they are relatively close from Goderich and Wingham, some colleges would potentially offer interesting partnership opportunities and may be interested in renting land or using the airport assets to support their program activities.

Outreach to the college and University flight programs administration has not generated any short-term leads. The number of VFR days at Goderich is a concern of most flight training partners we contacted.

4.1.5 Local and Regional Industrial Landscape

This section looks at the industrial composition of Huron County and identifies key industry sectors and major employers who are the economic engines of the region. The section presents findings separately for the Aerospace and Non-Aerospace sectors.

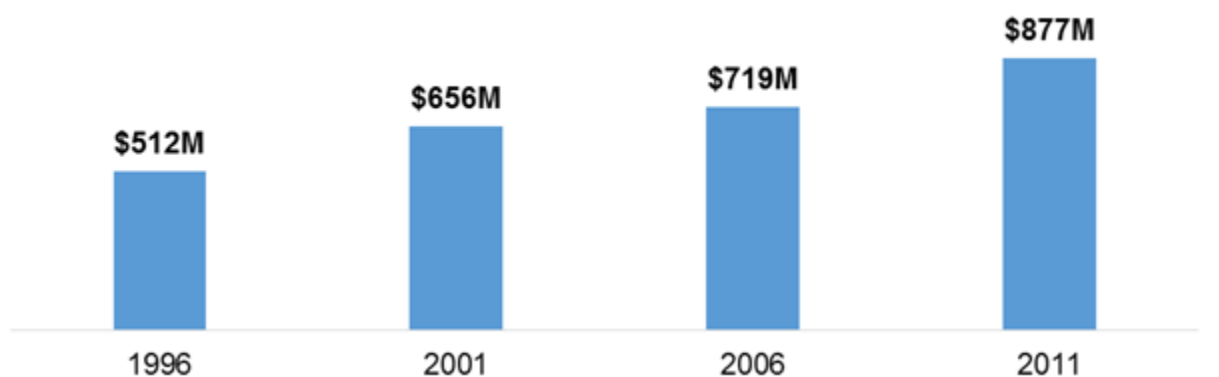
Non-Aerospace Sector

As we saw in the previous sections, the local economy is predominantly dependent on agriculture and manufacturing industries. According to the *2013 Huron County Employment Fact Sheet*, a larger proportion of Huron County residents (aged 15 years and older) were employed in agriculture, manufacturing, healthcare, construction and retail trade. In fact, those top five (5) sectors account for 54.7% of total jobs. Individually, the agriculture and manufacturing sectors respectively account for 13.42% and 11.75% of the workforce over 15 years old⁵.

Resource-Based Industries

Huron County's agriculture sector is one of the most important in the province with more than 290,000 hectares of prime farmland. Huron County offers some of the best agriculture lands in Canada. Agriculture grew by 42% between 1996 and 2011, for total gross farm receipts that reached \$877 million in 2011.

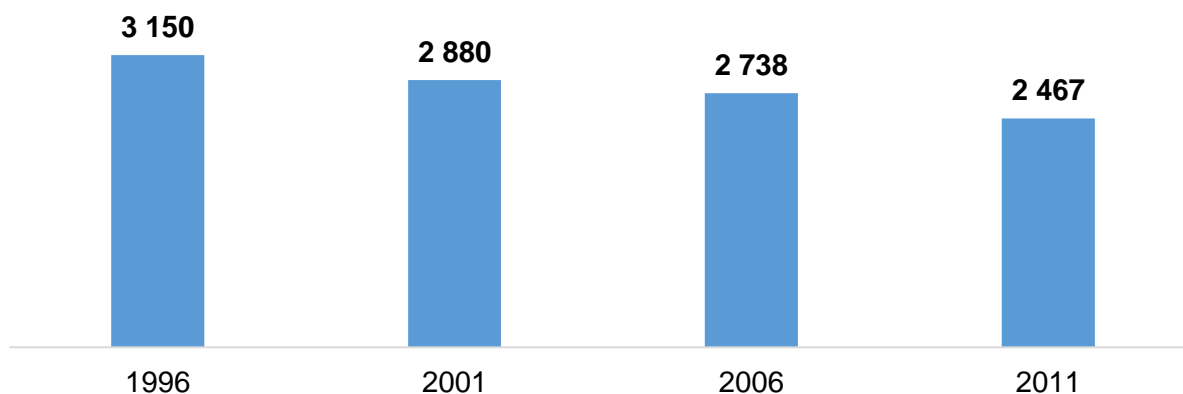
Figure 5 - Gross Farm Receipts - (1996 - 2011)



Also, during the same period, the county saw consolidation of farms and therefore a reduction in the number of farms in activity, as shown in figure 6:

⁵<http://perthhuron.unitedway.ca/wp-content/uploads/2014/01/Huron-County-2013-Employment-fact-sheet.pdf>

Figure 6 - Total number of operating farms in Huron County

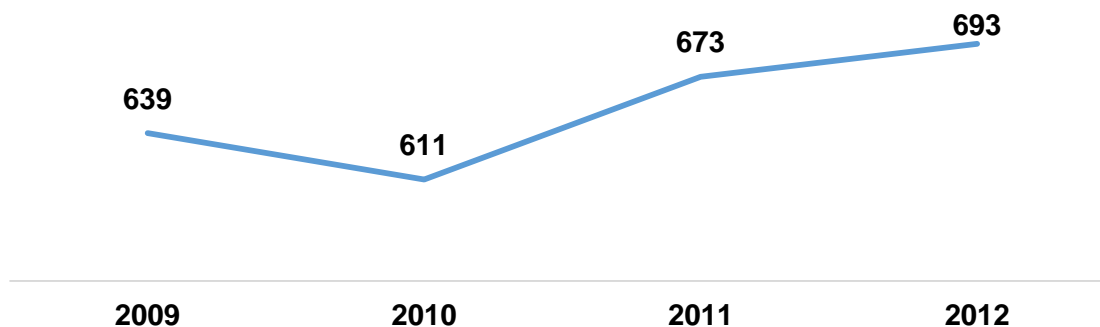


From 1996 to 2011, a total of 683 farms have closed or were purchased, which represents a drop of 22% but although there are fewer farms, the farms are now larger in size (Acreage/number of livestock) than they were.

Tourism Impact on Local Economy

The development and continuous enhancement of the tourism industry was one of the key action items referenced in the 2016-2020 Huron County Economic Development Plan. Tourism is a major economic engine for the County, with total visitors spending topping \$60 million annually, according to a County report⁶. The average visitor spends \$63 per day and \$94 for overnight stay. Also, according to the 2014 Annual Tourism Report⁷, the County of Huron has received approximately 1 million visitors per year, with 94% of the visitors coming from Ontario. Out of these visitors, 45% are staying overnight. From 2009 to 2012, the county events experienced an 8% growth in attendance.

Figure 7 - Events and Attractions Attendance Numbers (in thousand)



⁶ <https://www.ontarioswestcoast.ca/about/tourism-annual-report/>

⁷ IDEM

Largest Organizations

The County of Huron is home to large companies mainly active in the resource sector (notably the mining and agricultural sectors), manufacturing and health-social services. The following table details the notable local businesses located in Goderich and North Huron:

Table 8 - Goderich and North Huron Companies

Company name's	Description
North Huron	
The Old Mill & Baintons	The Old Mill & Baintons is the biggest name in Canada's leather fashion district. Located one minute south of Blyth on Hwy 4, The Old Mill & Baintons offers an extensive array of leather – coats and jackets.
BI-AX International Inc.	Established in 1999, BI-AX produces rolls of plastic film for food packaging and other industrial applications. BI-AX has two (2) major locations: Tiverton and Wingham, Ontario.
Howson & Howson Mills Ltd.	A five generation family company located in Blyth, Howson & Howson Mills Ltd. has grown since 1875 to include the Flour Mill, Feed Mill, Grain Elevator and Crops Inputs Division.
Huron Geomatics Inc.	Huron Geomatics Inc. (HGI) is a Wingham-based and locally owned company. HGI is a consultancy that focused on high accuracy data collection, analysis and asset management. Their client-base spans many disciplines, from municipal governments, electrical utilities, telecommunications, and the energy sector.
Royal Homes Ltd.	Founded in 1971, Royal Homes manufactures award-winning modular homes that are shipped to sites across Ontario.
Sparling's Propane	In 1951, Grant Sparling began selling propane from his hardware store on the main street of the Village of Blyth -- he offered it as a convenience to Customers who bought gas ranges at his store. Today, Sparling's is the second largest propane company in Ontario with locations and services throughout southwestern and central Ontario.
Westcast Industries Inc.	Two (2) casting plants and a machining plant are situated in North Huron and Morris-Turnberry. Westcast is one of North America's foremost suppliers of exhaust manifolds.

Goderich	
Sifto Salt Mine	The Sifto Goderich Mine is one of the most important salt mine in North America. The production at this mine started in 1880 and it's still active today.
Bruce Power	Bruce Power is Canada's first private nuclear generator, providing 30% of Ontario's power. Their eight (8) units provide over 4,000 full-time, direct jobs to highly skilled employees and thousands more indirectly. They inject billions of dollars into Ontario's economy annually, while producing safe energy that produces zero carbon emissions.
Signal Star Publishing Ltd.	Signal Star Publishing is the most important media company in Goderich and is publishing the Goderich Signal Star. All local news and events are covered by this organization.
Akromold	Established in 1957, Akromold is a mold making shop, specializing in furnishing the rubber industry with custom designed mold tooling used in the manufacturing of parts for the automotive, aircraft, medical and industrial industries.

Aerospace/Aviation Sector

Our analysis of the aerospace/aviation sector in the County of Huron was aimed at qualifying its aviation ecosystem. Search results show that most of the large aerospace and aviation firms are located in neighboring counties such as Middlesex, Perth Waterloo, and of course, the GTA.

Table 9 lists some of the aerospace and aviation companies based within 70 kilometers of the Goderich and Wingham airports. The surveyed area was limited to neighboring counties to get a sense of scale and size of aviation-related activities in the region, while making sure that proposed concepts would not compete with nearby projects.

Table 9 - List of Aerospace and Aviation companies around Huron County

Company name's	Location	Description
Apex Helicopters	Wingham	Apex is located directly at the Richard W. LeVan Airport. The company focuses on crop spraying, herbicide / fungicide / insecticide application, forestry spraying, and aerial photography / mapping / inspection.
Platinum Jet Corporation	Clinton	The company offers a various range of services to aircraft owners, from program management, conceptual design to business development. This small company also engages in aircraft sales. They are no located at an airport.
Goderich Aircraft	Huron Park	New United Goderich Inc. provides full aircraft

Inc.		maintenance and support from “tip to tail”. Services include Maintenance Inspections, Heavy Maintenance, Composites, Avionics Installation, Exterior Refinishing, Interior Refurbishment and other general Engineering services.
FAG Aerospace	Stratford	Manufacturer of aerospace bearings. Application: main shaft and gearbox bearings for gas turbine engines; helicopter rotor shaft bearings.
Trillium Aerospace Inc.	Lucan	This company offers a wide range of Avionics Engineering Products and Solutions. More precisely, the company creates technical documentation, engineering drawings, consulting services, project management services and online equipment sales.

4.2 Results of the Consultation Sessions

On July 19-21, 2017 Explorer Solutions organized two (2) focus groups and conducted a series of interviews with local business leaders, airport tenants, government agencies and other regional stakeholders. The aim of the consultation exercise was to grasp the basic economic strengths and assets of the County of Huron, the City of Goderich and the Township of North Huron as well as getting a local perspective on the airports perceived benefits and future. Information shared was used to determine potential development opportunities for Wingham and Goderich Airports and also served in assessing feasibility of identified projects.

Table 10 lists the organizations that participated in the consultation process. A total of 13 organizations have been interviewed and 15 people attended the focus groups.

Table 10 - List of Organizations Consulted during the Stakeholder Interviews and Focus Groups

Organization Name	Related to	Type of consultation
Bi-Ax International	Wingham	One-on-one Interview
Apex Helicopters	Wingham	One-on-one Interview
RC Jets Club	Wingham	One-on-one Interview
Private Airport Tenant at CPR7	Wingham	One-on-one Interview
Wingham Hospital	Wingham	One-on-one Interview
Europarts	Wingham	One-on-one Interview
Municipality of Morris-Turnberry	Wingham	Phone Interview
Huron Geomatics	Wingham	Phone Interview
Pionner Hi-Bred	Wingham	Phone Interview

Wingham BIA	Wingham	Focus Group
Huron Tractors	Both	One-on-one interview
Huron County – Head of Communication and Tourism	Both	One-on-one Interview
Sky Harbour Painting (former employee)	Goderich	One-on-one Interview
Goderich Port Authority	Goderich	One-on-one Interview
Gozzard Yachts	Goderich	One-on-one Interview
Huron Tractor	Goderich	One-on-one interview
YGD Airport User	Goderich	One-on-one interview
Bruce Power	Goderich	One-on-one interview
ACW Township	Goderich	One-on-one interview
Town of Goderich	Goderich	One-on-one interview
Township of North Huron	Wingham	Focus Group and one-on-one interview
County of Huron	Both	Focus Group, one-on-one interviews with Staff members
Wingham Business Improvement Area	Goderich	Focus Group
Huron Small Business Enterprise	Goderich	Focus Group
Huron Chamber of Commerce	Goderich	Focus Group
West Harbour Investments	Goderich	Focus Group
Hyundai of Goderich	Goderich	Focus Group
Various COPA Members and Based Pilots	Goderich	Focus Group
Flippin' Eggs Restaurant	Goderich	Phone interview

To facilitate reporting of the vast amount of information shared by participants, results are presented in two (2) distinct categories. First, a review of the highlights shared during the focus groups. The focus groups gathered people involved or familiar with the airports, which led to discussions that revolve around infrastructure conditions, operations and quality of the services provided. On the other hand, one-on-one interviews targeted a mix of entrepreneurs, airport tenants and small and large businesses addressing both airport and economic topics. The results of the interviews will be presented separately.

4.2.1 Focus Groups

During the focus groups, attendees were asked to provide a brief overview of their company/organization as well as their opinion on what efforts should be undertaken to help drive more investment and activity at both airports.

Overall, the focus groups generated interesting ideas on what could be improved or done differently to increase revenues, better operations and ensure sustainability. Proposed ideas and other relevant information have been summarized for each airport.

Focus Group in Wingham

The focus group in Wingham attracted five (5) people out of the ten (10) who had registered. Session highlights are summarized below (the comments below represent information shared by the participants not the opinion of the consultant):

Comments related to market landscape, airport utilization and services:

- Manufacturing industry has been declining for decades;
- Participants commonly agreed that the airport is underutilized and should be seen as an asset and not a liability;
- It was noted that the airport is home to an important rotary-wing aircraft operator (Apex) and everything within the possible means of the community should be done to satisfy this anchor tenant;
- From a geographic standpoint, developing residential on airport grounds would not be attractive to potential buyers. Airport is too far from services. Participants mentioned that the housing market was booming and the town has become sort of a bedroom community for middle-class family working in the area.
- The fact that there is no car rental at the airport or in town would certainly be problematic for pilots landing in Wingham who wish to visit the area.

Suggested development ideas and opportunities:

- Part of the discussion was aimed at identifying tourism attractions found in Wingham and within the neighboring regions that could entice pilots to fly-in to Wingham. Participants mentioned the recently opened Micro-Brewery, the Blyth festival, local fashion and art shops were among the distinctive products the region has to offer. They also talked about the outdoor activities such as fly-fishing, hiking and snowmobiling that may be appealing to pilots and their family.
- It was also suggested to build additional hangars to cater to the general aviation pilots' community.
- Biking and ATV trails in the woodlands south of the airport property could potentially be expanded into a pay-and-play concept.
- For many attendees, developing Wingham into a flight test facility for testing drone technology may hold some promise.

Focus Group in Goderich

The focus group in Goderich gathered more than a dozen participants, representing small businesses, economic development agencies, aircraft owners, pilots and aviation enthusiasts. Different topics were addressed, but discussions revolved around the condition of the airport infrastructure, the region's tourism assets, state of the economy and what opportunities exist to increase and diversify airport revenues.

Comments related to airport infrastructure condition, activity and services:

- Participants mentioned that the airport terminal as well as the infrastructure was in poor condition. Many viewed the current conditions of the infrastructure as a deterrent for companies considering establishing at Goderich Airport. The terminal interior needs to be revamped not to mention that furniture and interior design also need to be updated.
- Regarding other buildings that sit on airport property, they are in fair to good condition based on feedbacks from attendees. The building structure of the former Sky Harbor paint shop is believed to be in good condition, same for the paint booth. As for the other buildings tied to the former Sky Harbor Corporation, one building has a leaking roof and the outside is not attractive, but overall condition is good. It was mentioned that the property was put for auction and did not get any bid. There is a contamination issue on part of the land.
- Goderich airport has a rich aviation history and many attendees believe rehabilitating this story may help promote the airport.
- Among the differentiating factors that make the airport and community stand out, attendees mentioned the sense of community and the movie town feel and unique design of the downtown area. The fact that the airport is a stone's throw from the town and that is centrally located making it an ideal location to explore the region and its many tourism attractions, were among the other cited advantages.
- It was also brought to our attention that despite the fact that the airport has seen better days, it still has a sizeable base of tenants and air traffic activity. Medevac flights and local aircraft traffic represent the bulk of the activity registered at the airport. For some attendees, airport governance and operations need to be re-evaluated. The current situation where the airport is owned by the Town, but sits on Township lands preclude capital investments and land development that may hamper the airport future.

Suggested development ideas and opportunities:

- It was recommended to evaluate the potential to rehabilitate the former Sky Harbour facility and attract another aircraft painting company at the airport. Other believed the facility could be redeveloped and space redesigned to accommodate mix-use industrial activities.
- The opportunity to partner with an aviation college and offer flight training courses in Goderich should be investigated. There might be a possibility to establish a satellite campus focusing on specialty work like avionics.

- Based on one of the participants, windmill parts manufacturer was potentially interested in expanding in the region.
- Various attendees mentioned the airport should try leveraging the region's location advantages (quality of life, affordable housing, and outdoor activities) to entice pilots to establish in the Goderich area. Promoting tourism attractions was also seen as a way to generate more aviation traffic and potential tenant interests.
- It was mentioned during the discussion that some private parties had expressed their interest in renting hangar space at the airport. The opportunity may exist to develop aviation hangars.
- With Bruce Power revitalization project, some attendees argue that demand for scheduled flight may arise, and it will be worthwhile to investigate the possibility to establish an air service between Goderich and GTA.

4.2.2 Stakeholder Interviews

The consultation process was also comprised of one-on-one interviews with a number of public, business, tourism and academic leaders. Overall, a total of more than forty (40) such meetings were either held in-person or by telephone. The interviews allowed us to gain more in-depth knowledge of ongoing projects and priorities contributing to the regional economy. The meetings also served in collecting valuable information that helped our team to test some hypothesis and assess the sustainability of some of the proposed development ideas raised during the focus groups. Below is a summary of the main discussions and opportunities that came out of the interviews.

Interviews with Wingham Business and Community Leaders

Overall, representatives from local economic development agencies, tourism and city officials, airport tenants, Municipality of Morris-Turnberry, entrepreneurs and businesses were met with on July 19th and part of July 20th.

- Overall Airport Users believes Wingham has one of the best infrastructures in the region, but some operational improvements would be required in order to ensure its future. It was recommended that professional staff should be hired to manage the airport. The fact that Wingham is operated by part-time resources slows down the decision process.
- Airport tenants also discussed plans to build, a total of six (6) stand-alone hangars. The plan was to build some of those hangars in front of the existing buildings to improve operational efficiencies. The idea to build a helipad was also mentioned. The project never came to fruition despite several attempts to get the Township's approval and permits. The tenants were not able to precisely identify the reason why the construction project got stalled, but they felt that municipal authorities did not have the process in place to assist

and get things moving in the right direction. In another interview, it was also brought to our attention that the largest airport tenant, Apex Helicopters, was potentially considering selling its business operation.

- Other airport tenants and users also mentioned having difficulties in getting confirmation and approvals from the local government authorities. It seems that there are some disconnects in the communication chain and decisions and action always tend to be deferred.
- We also had a lengthy discussion with Blair Howkins of the RC Jets Club. The RC Jets Clubs annual competition gathers more than 70+ radio-controlled jets owners and more than 1,500 visitors over a weekend in July. The event is the largest of its kind in Canada. Through the conversation, it was determined that an opportunity may exist to increase the scale and scope of the event and cater to an international audience.
- We also met with the Manager of the Wingham hospital. The purpose of the meeting was to determine if Wingham could host additional air ambulance flights. Unfortunately, ORNGE tends more and more to fly to the accident scene with its helicopter reducing the need to use fixed-wings aircraft and the airport. In 2016, the airport registered 12 landings from ORNGE.
- In person and phone interviews were also conducted with Morris-Turnberry representatives to review land use plans, confirm parcels availability and ownership. The meetings were also an occasion to determine the willingness of the Municipality to consider cost-revenue sharing models with the Township of North Huron. They were open to the discussion.

Interviews with Goderich Business and Community Leaders

- Meeting with Sam Chamas, former employee of Sky Harbour, kicked-off the interviews for Goderich. Based on Sam's recollection of events, the exchange rate was the main factor that led to Sky Harbour closure in 2011. He believes that the market is robust enough to allow for new entrants. He briefly presented Sky Harbour's plan to reopen the facility and provided its own assessment of paint shop building conditions.
- Throughout our 3-day visit, meetings were held with City, Township and County's officials to review the mandate objectives, discuss airport management and operations, and debrief on the information and development ideas shared by participants. Key highlights of the discussions are related to asset management and financials. First, City officials in Goderich were not receptive to sharing resources and services with Wingham. They also mentioned that revamping and upgrading the runway will be in the range of \$4 million and part of that

amount will have to be financed through federal/provincial funds. It is also worth mentioning that the Town of Goderich is in the same situation as Wingham where the airport is located in another jurisdiction (Township of Ashfield-Colborne-Wawanosh). Regarding airport lands, a meeting was organized with the Deputy Clerk of ACW Township to review land uses, parcels limits, and feasibility of rezoning some of the parcels to accommodate non-aviation development. The information provided served to evaluate the possibility to develop alternative airport uses.

- Meetings were also held with airport users to get their perspective on the airport. Overall, people see the potential to offer built-to-fit hangar space for people interested in building their customized space that will meet their requirements.
- Comments were also voiced on the lack of a structured marketing approach that could entice pilots to visit the airport and purchase fuel. The idea of offering fuel card and rebates emerged in one of the discussions. We also met with airport tenants and building owners owning different properties in town and at the airport. Some owners shared building plans and specifications and views on how the buildings could be utilized.
- One of the most productive meetings was held with Bruce Power. Bruce Power is currently undergoing a complete revitalization project to extend the life of its reactors until 2064. The \$15 billion project is expected to generate \$4 billion in annual economic benefits through the direct and indirect spending on operational equipment, supplies, materials and labour over 20 years, creating 4,500 jobs and a large ecosystem of suppliers. The energy company believes that its suppliers, vendors and partners may be interested in using air service to travel from the GTA to the Goderich area. They agreed to distribute a questionnaire to their suppliers to evaluate the interest for a passenger air service. They also mentioned that their executives may also be potential users. They supported our effort by sending a survey among their management staff and supplier network.
- Other larger organizations having a regional impact were interviewed. The Port of Goderich and major equipment vendors like Huron Tractor participated in the consultation process. Their in-depth knowledge of the business landscape has allowed us to confirm and refute some early hypothesis.
- Through our meetings, numerous local leaders highlighted that the Flippin Eggs restaurant has a very well-attended spot for local and transient pilots as well as local workers, residents and travellers on Highway 21. We did not get the chance to meet face-to-face with Flippin Eggs' owner, but we were able to speak to him over the phone to verify and share some preliminary ideas we were contemplating for the lands adjacent to his property.

The owner was very receptive to developing additional commercial shops complementary to his restaurant business behind or even on his property facing Highway 21.

Comments, opportunities and vision expressed in the focus groups and interviews have been taken into consideration to assess and evaluate the feasibility of developing these ideas at the airports. Information shared during the consultations has been verified with industry and market data. The result of the analysis has led to the identification of development concepts for Wingham and Goderich Airports. Identified concepts can be found in Section 8.

4.3 Trends in Aviation and Aerospace: Industry Survey's Results

The purpose of this section is to understand from a qualitative standpoint, what trends aviation and aerospace companies believe could potentially impact or disrupt their business, what factors are considered when selecting a site to expand or relocated their operation, and what type of issues they must overcome on a regular basis. Also, the companies were surveyed on their general knowledge and perception of the airports and region.

By going beyond industry statistics and getting a more personal look into these topics, we were able to better define the needs and requirements of the aviation and aerospace industries. Information shared gave us additional insight as to potential development avenues for both airports that could be better aligned with the survey findings. Table 11 lists the 25 surveyed aerospace companies.

Table 11 - List of surveyed companies

Company	Category	Company	Category
AvCorp Engineered Composite	Tier 1	Chartright	FBO & Aircraft Charter
Avro Pattern Inc.	Tier 1 and 2	Innotech/Execaire	FBO & Aircraft Charter
Ben Machine Products Co.	Tier 1	Great Lake Helicopter	Flight School
Defense & Aviation Wiring Inc.	Tier 1	Lake Central Air Services	Aircraft Maintenance and Manufacturing
Avior Inc.	Tier 2	ITPS Canada	Flight School
L-3 MAS	Tier 1	Skylink Express	Air Freight
GS Networks	Tier 1	Partner Jet	Charter

Koss Aerospace	Tier 1	Flightexec	Charter
Bell Helicopter -Textron	OEM	Composites Atlantic	Tier 1
Field Aerospace	Tier 1	COMTEK Advanced Structures	Tier 1
Delastek	Tier 2	MDA Corporation	Tier 1
Applied Precision Inc.	Tier 3	MOOG	Tier 1
Cyclone Manufacturing Inc.	Tier 3		

Table 12 - Aerospace Manufacturers Classification Terminology

Category	Description
OEM	Assemble, then market and sell the final aircraft platform to end customers.
Tier 1	Engaged in the integrated design, development, manufacturing and marketing of major aircraft systems such as landing gear systems, navigation systems and propulsion systems.
Tier 2	Engaged in the integrated design, development, manufacturing and marketing of engineered and proprietary equipment and sub-systems such as sensors, instruments, displays and communications equipment.
Tier 3	Parts and assembly suppliers that act as subcontractors that manufacture or supply components and sub-assemblies such as machined components, minor assemblies and their customers are typically tier 1 and 2 firms along with other tier 3 firms.

4.3.1 Key Identified Trends

One of the biggest market trends that companies are seeing is additive manufacturing (3D printing) – there is still a lot of testing and certification that needs to be done, but it is quickly asserting itself. Today, Additive Manufacturing is mainly used and developed at the OEM level. Major research initiatives are being developed between industry and academia. It is anticipated the lower level of the supply chain will be asked to upgrade their equipment within the next 5 to 8 years. Companies are also looking for any material, parts, components or technologies that will lead to overall cost reduction, improved production time while respecting quality standards.

Market diversification, rationalizing supplier' base and outsourcing (notably outsourcing low value manufacturing outside of the country), were among the most common trends cited by

interviewees. Also, with major airports increasing their lease rates, this has led companies to shift to smaller regional airports. But, some aviation companies (FBOs and Charters especially) mentioned that most small airports were not suitable for their operation given limited infrastructure and services. Making sure companies are structured to handle sudden economic downturns such as drops in oil prices and currency fluctuation is something that is being prioritized by several companies for the future. Along the same line, some international companies are afraid of the new Trump Administration, which may reduce accessibility to the U.S. market and compromise some opportunities.

For the future, the aviation companies see the GTA attracting even more companies at the expense of smaller cities-municipalities. Finally, drones are quickly gaining in popularity, are more performant, and will eventually replace some work already performed by some aviation-related companies (i.e. spraying, photography and inspection).

4.3.2 Key Identified Issues

Manufacturers mentioned that offering on-time delivery while maintaining quality standards was the most pressing issue. Still related to supply chain management, finding suppliers that can meet their lead times and respect production volumes was another important issue impacting surveyed companies.

Securing long-term agreements, consolidating suppliers, improving communication, encouraging suppliers to increase their level of certification (AS9100, ISO 9000 or 9001 and Nadcap) and developing robust inventory management systems and share the development costs with suppliers were other issues often cited in the conversations. Also, as utilization of composite materials is more widespread, companies are seeking for lighter and more durable parts and components from their suppliers.

For aviation companies, the only issue that was recurrent is the lack of government support for smaller businesses at the provincial and federal level. Most of the time, this will be reflected in the offered financial support and the bidding process (no priorities for Ontario businesses). Furthermore, some companies mentioned the same issues, but from the point of view of airports. Indeed, if regional airports were receiving more financial help, they would be in better shape, and with quality infrastructures, more aviation companies would be willing to use them for their operations.

4.3.3 Considered Factors for Expansion or Relocation of Activities

Relocating assets or production capabilities closer to the addressed markets was not perceived as a competitive advantage by the same surveyed organizations. Aviation-related businesses

deal with multiple markets and customers based in different geographic locations which indicate that proximity of the clients is not a must. For large OEM, like Bell Helicopter or Bombardier, there are possible cost savings of being close to the major clients, which explains their national and international presence. Most of the surveyed companies in Ontario are not looking at relocating or expanding operations elsewhere in Ontario. If expansion was needed, manufacturing companies would prefer to grow their presence at their actual base of operation or expand overseas to develop new markets. Some aviation companies mentioned their interest to develop their presence in other Canadian provinces or in Ontario's large centers.

As such, when asked if they would ever consider expanding and/or relocating their business to a different location, surveyed companies provided the following answers:

- (75% of surveyed companies) - No, because we want to maintain our proximity with our clientele, we like our current location, and we would like to keep our operations close to one another.
- (25% of surveyed companies) - They do not have an immediate expansion plan, but they would consider it. It will all depend if the location possesses some of the following assets: skilled labor, proximity to clients, local demand, very competitive incentives, land availability and suitable infrastructure and hangar available for lease at competitive prices.

4.3.4 Ontario's Business Environment

Most Ontario companies in the aerospace manufacturing sector have experienced revenue growth increases over the past years mainly due to international market sales. As opposed to large manufacturers, local and regional aviation charter companies have seen sales show signs of recovery in the past few years, but pre-2008 sales have not been reached yet. Overall, the business environment in Ontario has been favorable due to strong government incentives (notably land and tax incentives, export grants, interest-free loans and funds for R&D), but these applied mostly to manufacturing companies and not to aviation-related companies and airports. Some mentioned that realignment will be needed to better support tier 2-3 manufacturers rather than only large OEM's and Tier 1 companies. Among the negative comments, some note that high costs of energy scaring away potential investments in the province. Three (3) companies mentioned that getting skilled labour is an increasing challenge, leading some companies to go outside the province for skilled workforce.

4.3.5 Knowledge and Perception of the Airports

For Goderich, we found that most organizations know the airport by name, and that approximately 25% of the respondents have been there at least once. Furthermore, approximately two (2) years ago, one of Chartright's aircraft was based at the airport, and Great Lakes Helicopter performed training at the airport on some occasions. For Wingham, we found that approximately half of the surveyed organizations know the airport by name, but almost all

respondents have never been at the airport. Many of them were not familiar with the Township of North Huron.

5. Airports Benchmarking Analysis

Our team benchmarked six (6) airports of similar size and function to Goderich and Wingham Airports to evaluate revenue generation activities, namely parking and landing fees, land lease and hangar lease. Both the lists of airports and criteria were defined in consultation with the client. This exercise provides an overall portrait of the positioning of both Airports versus some of their competitors. The key conclusions and some recommendations deriving from this benchmarking are summarized at the end of Section 5.

5.1 Airport Specifications

This sub-section compares the infrastructures and approach systems at the various airports. Among the evaluated airports, only Wingham and Owen Sound have a single runway, the other benchmarked airports have either two (2) or three (3) runways. Main runway lengths vary between 3,933 feet (Owen Sound) and 5,033 feet (Warton).

Table 13 - Summary of Benchmarked Airport Specs

Airport	Runway Length	Surface Type	Approach	Based Aircraft
Wingham	Rwy 13/31: 4000 x 75	Asphalt	GPS RNAV	9
Goderich	Rwy 14/32: 5000 x 100 feet Rwy 10/28: 3000 x 50 feet Rwy 05/23: 1870 x 80 feet	Asphalt Asphalt Turf	NDB	18
Owen Sound	Rwy 18/36: 3933 x 75 feet	Asphalt	None	48
Warton	Rwy 05/23: 5033 x 150 feet Rwy 11/29: 3456 x 100 feet	Asphalt Gravel	GPS RNAV	Approx. 25
Kincardine	Rwy 13/31: 4085 x 75 feet Rwy 05/23: 2083-50 feet	Asphalt Asphalt	NDB	24
Stratford	Rwy 05/23: 5000 x 100 feet Rwy 17/35: 3000 x 50 feet	Asphalt Asphalt	VOR/DME	44
Collingwood	Rwy 13/31: 5000 x 100 feet Rwy 01/19: 2450 x 75 feet	Asphalt Grass	VOR/DME	Approx. 100
Saugeen	Rwy 01/19: 4000 x 75 feet Rwy 09/27: 2500 x 50	Asphalt Asphalt	LNAV	40

The most common runway surface is asphalt. Only Warton (gravel), Goderich (grass) and Collingwood (grass) have secondary runways made of different surfaces. Regarding approach

systems, half of the studied airports have VOR/DME or NDB approaches, which include Collingwood, Stratford, Kincardine and Goderich. Wingham and Wiarton have GPS approaches.

In terms of the number of aircraft based, Wingham and Goderich have the lowest number. Saugeen, Stratford and Owen Sound have above 40 aircraft based at their airport. Collingwood is highest with 100 aircraft.

5.2 Parking and Landing Fees

This section highlights the fares collected by the airports for aircraft parking and landing fees. By analyzing other airport fees and pricing structures, we can determine Goderich and Wingham competitiveness and take note of other pricing structures that could be adopted. It is important to bear in mind that several airports waive some charges if fuel is purchased. We calculated these fees under the assumption that no fuel was purchased to obtain the best possible comparative data.

Table 14 - Aircraft Parking and Tie-down Fee Comparison Table

Airport	Aircraft Parking and Tie-Down Fees	
	Daily Rates	Monthly Rates
Goderich	\$6.76 + HST (Grass) \$10.88 + HST (Paved) \$16.33 + HST (Paved + Hydro)	\$51.24 + HST (Grass) \$76.24 + HST (Paved) \$106.75 + HST (Paved + Hydro)
Wingham	\$6.94 (Grass) \$9.09 (Paved)	\$69.25 (Grass) \$74.57 (Paved)
Owen Sound	Free between 8am-5pm \$12.00 per night (up to 3 nights) One night free if fuel is purchased	(grass) \$30.00 \$35.00 (pavement)
Warton	\$10 (less than 3,000 KG) \$20 (over 3,000 kg)	\$44.73 (less than 3,000 kg) \$100 (3,000 kg – 6,000 kg) \$150 (Over 6,000 kg)
Kincardine	No overnight parking fees	\$81.50
Stratford	\$6	\$67
Collingwood Note: Free if fuel is purchased	\$15 (Single) \$18 (Twin) \$40 (Jet under 12,500kg) \$70 (Jet over 12,500kg)	\$50 (Grass) \$60 (Paved)
Saugeen	\$10 - Note: Free if fuel is purchased	\$60 per month

Aircraft parking fees – or daily tie-down fees – for the surveyed airports typically follow a fixed price per day, with the exceptions of Collingwood and Wiarton that follow a fixed rate per weight category and type of aircraft – Single engine, Twin engine and jet. Similar to Collingwood, Wiarton follows the fixed price per weight structure. Note that most airports propose a lower fee for grass parking. The daily and monthly average fees for tie-down are \$11.26⁸, and \$64.80⁹ respectively. For daily rates, Goderich's price structure is similar to other airports, but Wingham is slightly under average. For monthly rates, both Goderich and Wingham offer parking fees in line with region's averages.

It could be worth looking into adding additional weight categories, which would be similar to Collingwood Airport. This would allow increasing rates for heavier or larger aircraft without affecting the light/small aircraft category, typically more price sensitive. The following table presents the landing fees currently applicable at the benchmarked airports. At a first glance, we can see that only Wingham, Saugeen and Owen Sound do not charge landing fees.

Table 15 - Aircraft Landing Fee and/or Facility Fee Comparison Table

Airport	Landing Fees
Goderich	Free for aircraft under 5800 lbs. \$45,00 (5,800 to 12,500 lbs. Waive with fuel purchase 200L) \$75,00 (Over 12,500 lbs. Waive with fuel purchase 200L)
Wingham	No landing Fees
Owen Sound	No landing Fees
Warton	Free (0 – 2,999 kg) \$20 (3,000 – 7,999 kg) \$20 or 200L fuel purchase (8,000+ kg)
Kincardine	Free (under 3,000 kg) \$71.10 (over 3,000 kg)
Stratford	\$50 Commercial aircraft Free of charge for all other aircraft
Collingwood	Free (Single) \$60 (Twin, Jet, Helicopter under 12,500 kg) \$80 (Twin, Jet, Helicopter over 12,500 kg)
Saugeen	No landing fees

⁸ For Collingwood, the average was determined by calculating only the Single and Twin Engine Aircrafts fees. Goderich, Wingham and Wiarton averages were calculated considering all weight and all surface types' categorizations.

⁹ For Collingwood, Owen Sound, Goderich and Wingham, the averages were calculated considering all surface types' categorizations. For Wiarton, the average was based on their three weight categorization.

Aircraft landing fees vary greatly between airports and aircraft types. For most of the airports, fees are based on the weight of the aircraft. Stratford applies a flat landing fee exclusively to commercial aircraft and private pilots can land for free.

Based on the observed airports, it is recommended that Wingham considers using Goderich fees structure. Goderich approach of charging landing fees only for aircraft weighting more than 5,800 lbs is in line with the sector practice. Owners of single engine aircraft represent the bulk of the activity at small and regional airports. They purchase decent amount of fuel and other services, which often account for a sizeable share of the airport revenue. Charging them landing fees will be counter-productive and seen negatively by the pilot's community. While the model used by Goderich follows industry practices, it is important to note that for similar weight classification categories, landing in Wiarton is almost three times cheaper than landing in Goderich and Collingwood.

Our team also analyzed the option of implementing a camera system to enable Wingham Airport to track all aircrafts landing at the airport. To assess the systems presently on the market, we contacted Vector Airport System, an international leader of "Landing Fee Collection System".

The company typically charges between \$55,000 and \$60,000 for two cameras, one at the end of each the runway. The system includes wireless, solar-powered and high definition cameras. Annual operation, processing, monitoring, and maintenance would be another \$14,000 per year. This annually recurring fee covers all hardware maintenance, processing the images for the registration numbers, and exporting the data for viewing in the Airport Portal (Web application). Vector can also bill and collect the fee, providing all the required labor and customer service. The charge for this service is typically a percentage of the collected fee. This percentage varies from 15% to 20%.

Obviously, this first option is not viable for the airport due to the low volume of traffic. Another option would be to consult the registry from NAV CANADA. The organization provides the registration numbers of all flying aircraft that filed a flight plan by airport when requested. There is a nominal charge for this data.

The last analyzed option was a basic camera system. GSD Group, a Canadian leader in the distribution and installation of camera systems, mentioned that for an airport of the size of Wingham, the following package would support their needs:

- **Recording Module:** This module permits one to record and save multiple images to a server. The airport manager would need to spend a couple of minutes per day to manually review the pictures and identify the aircraft's serial number. Cost: \$2,000

- **LPR Cameras:** The License Plate Capture (LPR) Cameras are high resolution cameras that are especially designed to read vehicle's licenses. These cameras are also effective at nighttime. Cost: \$1,500 each (one or two would be required for Wingham)

It is recommended that Wingham considers this third alternative. This basic camera system would cost approximately \$5,000 considering two cameras and would provide a simple yet efficient way to capture landing aircrafts.

5.3 Land Lease

This section highlights the yearly costs per square foot of leasing airport land. This can either be for commercial or private usage and is often used as a mean to generate additional revenues from the airport property. These prices do not include airport maintenance charges and other similar charges.

Table 16 - Land Lease Rate for Serviced Land at Comparable Airports

Airports	Serviced land (\$/sq.ft.)
Goderich	No Land Lease Fees
Wingham	\$0.25-\$0.33
Owen Sound	\$0.36
Warton	\$0.29*
Kincardine	\$0.34
Stratford	\$0.28**
Collingwood	\$0.40
Saugeen	\$0.35***
Competition Average Land Lease Rate	\$0.3243

* Rates at Warton may vary from \$0.25 to \$0.33, for an average of \$0.29

**Rates at Stratford may vary from \$0.23 to \$0.33, for an average of \$0.28

***Saugeen offers discounted rates on first two years model: Year 1 = \$0.25 / Year 2 = \$0.30 / Year 3 and beyond = \$0.35

Average land lease rates for the surveyed airports' serviced lots vary from a minimum of \$0.25 (Wingham) to \$0.40 (Collingwood) per square foot annually, which corresponds to an average of \$0.32/sq.ft./year. Since Wingham airport is roughly \$0.07 under the average (only for one of their two (2) tenants), we recommend increasing the leases rate to (\$0.33) when the contract is due for renewal. Note that Wingham's main tenant (Apex) is already at a rate of \$0.33 per sq.ft.

Goderich should also consider establishing a land lease rate model aligned with the region's average for lands designated for aviation-related uses. At the moment, YGD does not have land lease fees in place at the airport other than the crop-sharing agreement with a local farmer. This arrangement is for the use of 22 acres of agricultural land, where the Town receives 1/3 of the crop grown on the leased land annually.

5.4 Hangar Lease

This section lists the total number of hangars units at each airport and those that are available for rental that are either privately or airport-owned. The purpose of this benchmark element was to determine the type of property and rental price of units at other similar airports.

Table 17 - Availability of General Aviation Hangar and Leasing Rate at other Airports

Airport	Total Units at airport	Units Available	Hangar Lease Rate (\$ / sq. ft.)	Hangar Surface per unit (sq. ft.)	Hangar Type
Wingham	3	0	Privately owned	Average of 3,600 sq. ft.	Stand-alone
Goderich	18	0	\$179.14 monthly (heated, grass entry) \$221.75 monthly (heated, paved entry)	Average of 1,125 sq. ft.	Both Stand-alone and T-Hangar
Owen Sound	16 (only one serviced lot remaining)	0	Privately owned	From 3,000 to 3,550 sq. ft.	Stand-alone
Warton	13	1	\$120k (for sale)	From 2,350 to 4,800 sq. ft.	Stand-alone
Kincardine	20	0	\$200-300 monthly for unheated GA Hangar	From 1,800 to 3,000 sq. ft.	Both Stand-alone and T-Hangar
Stratford	33	0	\$250-300 monthly for unheated GA Hangar / \$400 heated*	Average of 1,500 sq. ft.	Both Stand-Alone and T-Hangar
Collingwood	50	0	Privately-owned	Average of 3,000 sq. ft.	Both Stand-Alone and T-Hangar
Saugeen	24	0	\$175 monthly (no doors, not heated) \$350 monthly for heated GA Hangars (w/ doors and hydro)	Average of 2,250 sq. ft.	Both Stand-Alone and T-Hangar

Generally speaking, the previous table shows that GA hangar space is a scarce resource at the surveyed airports. With the exception of Wiarton, which has one hangar for sale, all of the units are fully occupied. Average monthly rates for unheated and heated hangars are respectively \$233 and \$288. Goderich, Saugeen and Stratford are the only airports that own heated hangars. Current rates at Goderich are below the benchmark average. In fact, Stratford and Saugeen are much more expensive than Goderich, \$400 and \$350 compared to \$179-\$222 for Goderich. The price gap could be explained by the difference in size. Stratford and Saugeen average hangar size ranges between 1,500 and 2,250 sq. ft. compared to 1,125 for Goderich.

5.5 Observations and Recommendations

Table 18 presents an overview of the recommendations for each of the benchmark elements.

Table 18 - Overview of Recommended Actions

Benchmark Elements	Goderich	Wingham
Parking Fees	Base fees schedule on aircraft weight.	Align fees with benchmark average. Airport should also consider basing its fees structure on aircraft weight.
Landing Fees	No change.	Establish a landing fees schedule similar to Goderich Airport.
Land Lease Rates	Adopt a land lease rate to benchmark average (\$0.3243 / sq.ft). For comparison, Kincardine's rate is at \$0.34 per sq.ft.	Increase land lease to benchmark average (\$0.3243 / sq.ft) for the tenants that are still at \$0.25. Rate is below Wingham's main competitor (Saugeen's rate is at \$0.35 per sq.ft.).
Hangar Lease Rates	No change	Not applicable, all privately owned hangars.
Hangar availability	Look at adding GA hangars	Look at adding GA hangars

6. Identified Development Opportunities

6.1 Retained Development Ideas

Information gained from the stakeholder consultations, industry survey and various market research and analysis performed throughout the study have allowed us to validate potential development projects for Goderich and Wingham airports. In the next section, we will give an overview of the retained concepts and provide the context and rationale that led us to select those ideas. Site plans, description, supporting data, and targeted markets and clients as well as associated financial projections for each concept will be detailed in Section 7.

6.1.1 Aviation-related concepts

Hangar Development (Both Airports)

Site visits of Wingham and Goderich airports was very enlightening in many aspects. One element that struck us was the limited number of aviation hangars. Goderich has seventeen (17) hangars on its airport property, 11 privately owned and seven (7) owned by the Town, while Wingham has only three (3), all privately owned. When compared to other municipal airports in Ontario, it can be noted that both airports have way less hangars than others.

Discussions held with airport tenants and users at both airports showed that developing small hangar units for recreational pilots may hold potential. Some private parties have shown interest in renting or building hangars. We recommend that both airports consider including hangar development in their land use plan. Proposed development sites, ownership and expected financial returns are detailed in Sections 7.1.7 (Wingham) and 7.2.3 (Goderich).

Fly-In-Packages for GA Pilots (Both Airports)

The County of Huron is strong in outdoor activities, but also in culinary, culture, and arts experiences. Despite its many tourism attractions, both airports are having difficulties in attracting pilots. A review of the transient traffic numbers is indicative of this. Pilots are looking for places to visit for a day, a weekend or more. Developing turn-key packages to entice pilots to visit the region has never been tried by the airports. The proposed concept suggests developing customized packages targeting the recreational pilots segment.

Growing RC Jets Event (Wingham)

Wingham Airport is home to a radio-controlled aircraft event once a year in July. The event is the largest event of its kind in Canada, gathering more than 1,500 people and up to 70 RC pilots over three (3) days. Given its size and the growing popularity of RC Jets among hobbyists, there is the potential to grow the event to one of the largest in North America. Increased attendance and reputation could generate additional revenues and economic impacts for the airport and the Township of North Huron.

Scheduled Passenger Service (Goderich)

Goderich is an attractive vacation destination 4-5 months a year and the announcement by Bruce Power of \$15 billion investment to revitalize its nuclear facilities will have a profound economic impact on the region, creating 22,000 direct and indirect jobs during construction and a myriad of business opportunities for regional companies and outside vendors. Many of those vendors, contractors and suppliers will be regularly called upon to visit the Bruce Power site during the project duration. Discussions held with Bruce Power management led us to believe that those suppliers may be interested in using air transportation to travel between Goderich (70 km from Bruce Power site) and the GTA. A survey was prepared and distributed to Bruce Power suppliers and managers to evaluate the need for the proposed passenger air service. This mandate did not allow for a similar survey to be carried out to the general public and tourism community. The development concept is described in section 7.2.6.

6.1.2 Non-aviation related concepts

Residential Development (Goderich)

Goderich Airport has undeveloped parcels of land at the corner of Airport Road and Lake Avenue. The parcels are presently used by a local farmer under a crop-sharing agreement with the Town of Goderich. The parcel is adjacent to a residential area and offers direct access to road infrastructure and close proximity with the lake, which could make it a good location for a housing development. Preliminary evaluation also shows that it will be possible to build multi-housing units without impacting the nearby grass strip and aviation activities. Market data also shows that real estate is booming in the region and that residential lots are scarce. Location and market factors being positive, development of multiplex housing at YGD is retained as one of the concepts. Any new residential land development would require a Sound Study to meet MOE D-6 Guidelines to see if residential is possible, the study to be included with planning applications (zoning by-law amendment as well as a possible official plan amendment).

Commercial Development (Goderich)

Flippin Eggs' Restaurant has forged a solid reputation among pilots, local residents and travellers commuting on Highway 21 for work and leisure. The restaurant is ideally situated to serve both pilots landing at YGD and nearby road traffic. The opportunity exists to add complementary shops to augment the offering and increase customer traffic. Flippin Eggs' owner was receptive to the idea of adding local shops on his premise, like a farmer's market and a bakery.

Sale of Airport Lands (Wingham)

A review of developable lands at Wingham identified the potential to sell parcels zoned Restricted Agriculture (AG-2) and Natural Environment (NE2 - Limited Protected Natural

Environment). The sale would not impact airport or tenants' activities. Yearly interest income generated from the land sale would allow North Huron Township to generate revenues while reducing its tax burden. The sizes of the land we suggest selling along with the projected interest income are detailed in Section 7.1.1.

Attracting an Aviation Related Manufacturer to Goderich

The opportunity to attract light industrial aviation activities and re-use some of the existing buildings – e.g. former Sky Harbour facilities – shows potential. It is recommended that the Town of Goderich and Huron County work in collaboration with hangar and land owners to develop a promotional campaign to market leasing opportunities to aviation and aerospace businesses.

6.2 Non-Retained Development Ideas

Throughout the study, various development ideas and potential projects have been raised by focus group participants, interviewees and surveyed organizations. While some ideas showed some potential, further research and analysis have demonstrated the limits and difficulties in implementing those concepts in either Goderich or Wingham. Summarized in this section are the ideas that have been abandoned and the rationale for not retaining those projects in the development concepts.

Partnering with a Flight Training School

We examined the potential to partner with an accredited college of aviation and validate their interest in establishing a flight training unit in Goderich or Wingham or use one of the airports as a flying base. Discussions have been held with people responsible for Aviation Programs at Fanshawe, Conestoga and Canadore Colleges. Fanshawe's College of Aviation submitted in August a proposal to his Board of Trustees requesting funds to start a flight training unit. The request is still pending. We shared with them the opportunity to use Goderich and Wingham airports, but they were unable to comment as their plans have not been defined yet. One of the managers also mentioned that flying conditions, particularly in Goderich, will be problematic to host training flights.

However, it is recommended to follow up with Fanshawe College of Aviation in the coming months to see if their funding request gets approved. Also, we attempted to connect with people at Conestoga and Canadore Colleges to verify their interest in expanding their footprint in Ontario. Initial conversations held with a Flight Manager at Conestoga College indicate that the institution was not looking at expanding its program. Following discussions with other staff members it was identified that the College would potentially be open to consider an expansion. Further discussions will be needed to clarify the true intentions of the College. Explorer Solutions will closely monitor the situation and will advise if any opportunity arise. At the time of

printing this report, we had not received final feedbacks from Canadore College on their planning and interest to expand their flight training program.

Developing Senior Housing in Wingham

The opportunity to develop senior housing at Wingham airport along Amberley Road has been considered. While the site seems suitable for residential development, the distance from downtown where most services can be found is considered problematic. For seniors, services must be within a walking distance from their place of living or ground transportation means must be available. The distance from downtown has led us to discard this concept.

Developing a Residential Neighborhood at Wingham Airport

The forested area south of the airport property was also considered for residential development. The site offers many advantages like being located next to a water course with direct access to the nearby golf course, making it an ideal location for high-end houses. While the site would be perfect for housing development, the cost to bring infrastructure to it would be prohibitive and there is presently a large housing development project in town.

Drone Test Site

The idea of developing a drone test site catering to the agriculture sector or others emerged. The concept was to establish a testbed area at Wingham airport where farm owners, suppliers and seed producers could come and test, evaluate and perform research on new type of crops with the aid of drone technology. We had conversations with the industry to validate their interest for the proposed concept and if they own or plan to acquire drones.

Conversations revealed that very few seed growers and other producers were looking to use drones in their plans nor did they have plans to use the technology to monitor and evaluate new crops. Interviewees also mentioned that drone technology would be more suitable for large scale productions requiring airborne solutions to cover hundreds/thousands of acres. In short, size of farm properties in Midwestern Ontario and the type of crop (low yield) were not conducive to the drone market.

There are also several private and public test sites across Canada and around the Great Lakes already offering test sites to drone users. On the regulatory side, drone activity will conflict with regular aviation activities. For those reasons, it was determined that developing a drone test site was not a good fit for the North Huron area.

Solar Development

Many airports have benefited from the Ontario Ministry of Energy's Feed-In Tariff (FIT) Program that allowed non-profit organizations like municipalities to generate additional revenues from

selling produced energy to the Ontario's electric grid. The government of Ontario has decided to shut down all the FIT programs.

The flagship program for large renewable energy contracts ended this past September. There is no sign that the FIT Program will be renewed. As for small renewable energy projects sponsored through the microFIT program, the government of Ontario recently announced that the program will be terminated in December.

7. Airport Development Concepts and Feasibility

This section presents the development concepts that have been retained for both airports. This section describes each of the 11 retained projects, provides the supporting data and rationales behind the selection of the concepts, briefly addresses targeted client segments, and analyses revenues, capital investments and profitability.

7.1 Richard W. LeVan Airport (PR7)

7.1.1 Sale of Agriculture (AG2-2) Lands

7.1.1.1 Concept Definition

The size of the airport property is 448.88 acres with 234.49 acres of land for agriculture purpose. Another large section composed of woodlands and zoned natural environment occupied 136.58 acres of land. Those two (2) zones account for almost 83% of the airport property. The remaining area comprises airport lands (74.81 acres) and small parcel of industrial land (3 acres) along the airport entrance. Figure 8 shows the airport property limits and different parcels of land.

Figure 8 - PR7 Airport Property Map



As showed in the above figure, only a small portion of the land designated for airport-related activities (Airport Lands – AL) is presently developed. Surrounding the airport lands (AL), more than 234 acres of agricultural lands are presently leased to a local farmer. Different avenues to increase land rental revenues have been evaluated for the agriculture parcels. The option to establish a crop-sharing agreement or to cultivate new types of crops was among the considered scenarios. All of those options carry higher risks for the airport and potentially additional work/overhead.

We recommend a scenario that would generate recurrent revenues while avoiding any additional administrative burdens and overhead. As such, we suggest the Airport should keep approximately 8.7 acres of agricultural land for future development (facing Amberley Road and bordering the Airport entrance) and selling the remaining 225.79 acres. We recommend this money should be deposited in a trust equity fund. At an annual interest rate of 2.75% this fund will generate enough interest income to cover airport expenses and provide funds to cover part of the future capital costs.

We also recommend that the Township of North Huron sell the lands zoned Natural Environment-Limited Protection (NE2) as part of a block sale with the AG2 lands. If the new

owner is looking to develop this zone, an Official Plan Amendment and Zoning By-law Amendment, along with supporting environmental studies to demonstrate that there will be no negative impact to the natural environment would be required.

Finally, it is important to note that AG2 lands can be used for a large variety of crop types. Even considering its height, corn is among the possible options. This type of crop will not interfere with the OLS, if a 75 meter distance from the center of the runway is maintained.

7.1.1.2 Supporting Data

For budgetary purpose, agricultural land (AG2) in the vicinity of Wingham airport was valued at \$17,000 per acre (validated with Farm Credit Canada, OMAFRA and local realtors). The demand for farm lands is high in the region and properties do not stay long on the market. There are favorable market conditions that would allow the seller to get premium prices for the agriculture land parcels. As for the Natural Environment lands (NE2), preliminary evaluation performed by a brokerage firm estimates the value of the land at \$1,100 to \$1,300 an acre plus the value of any potential harvest. For our financial calculations, we will use a selling price of \$1,200 per acre (not estimating the potential harvest).

7.1.1.3 Capital Cost

The sale of the 225.79 acres of agricultural land and 136.48 acre of NE2 land does not imply any capital expenditures. The property is in good condition and leased out to a local farmer. No site preparation or infrastructure upgrades will be required.

7.1.1.4 Revenue Projections and Profitability

Selling 225.79 acres of land at \$17,000 an acre would generate \$3,838,430 plus \$163,896 for the NE2 parcels. By depositing those two amounts into a Balanced Fund for example, yielding 2.75% per year, an estimated \$110,064 in interest income will be generated every year. Public service organizations such as municipalities are exempted from capital gains tax or any other income tax. Table 19 depicts the total expected return and surpluses on year 1, over 5 years and 10 years.

Table 19 - Sell of AG2 and NE2 Lands – Projected Revenues

Items	Year 1	5-Year Period	10-Year Period
Revenues			
Land Rental to local farmer	\$59,800	\$59,800	\$59,800
Sale of Land – Interest income (2.75%)	Land sale	\$440,256 (4 years of interest incomes)	\$990,576 (9 years of interest incomes)
Total Revenues	\$59,800	\$500,056	\$1,050,376

*Revenues are based on a fixed return of 2.75% for the 10-year period. Leasing rate remained at \$260 per acre for the analyzed periods.

The proposed concept, while preserving prime airport lands for future aviation-related uses, allows municipal authorities to generate \$1,050,376 in surplus over 10 Years. Part of this reserve fund could serve to maintain the airport asset and pay for future airport infrastructure rehabilitation and upgrades. Consolidated financials incorporating all of the proposed concepts found in Section 10 will provide a detailed overview of the available funds that will be generated over the long term.

7.1.2 Growing RC Jets Event Rally

7.1.2.1 Concept Definition

In 2006, a group of radio-controlled jets enthusiasts created the RC Jet Rally at Wingham Airport. The event has been a great success over the years, generating activity at the airport and attracting people to the region. The last happening in 2017 gathered 70 pilots and approximately 1,500 visitors attended the show over the weekend. The Wingham RC Jet Rally is now considered as the largest RC Jets event in Canada.

There is a potential to use experience gained over the years to grow the event into one of the largest RC Jets gathering in North America, catering to US and international clientele. The proposed concept suggests furthering development of the RC Jet event in Wingham in order to reach a larger audience, attract more pilots and increase attendance numbers.

In order to achieve this objective, we will briefly address what could help the RC Jet Event reach the next level and become a globally recognized RC Jets event. The following strategies could eventually be put in place in order to reach previously mentioned objectives:

- Support marketing efforts to position the Wingham RC Jet Rally as one of the “must attend” RC Jet event across North America;
- Examine the possibility to expand event programming by including other radio-controlled platforms such as turboprops, Warbirds/Vintage aircrafts and drones;
- Develop strategies to attract large sponsors at the event, both from Canada and the U.S.;
- Carry out a marketing study to understand the targeted audience and visitors;
- Analyse the competitive landscape and determine the best marketing strategy to increase visibility and position the event to an international audience.

The following sections explain the rationale behind the proposed development strategy.

7.1.2.2 Supporting Data

In past decades, the number of RC Jet amateur pilots has been constantly growing, thanks to less expensive and lighter parts, better batteries and electronics, and improved aircraft controls. The global RC aircraft sales market increased from \$358 million to \$363 million between 2007 and 2010, mostly driven by the RC Jet growth. To respond to this demand, many events across North America have been created. In 2017, more than 50 RC Jet events have been held in North America compared to less than 30 events 10 years ago. The following table presents the most important gatherings in the US.

Table 20 - Top 5 RC Jet Events in North America

Event Name's	Description – Details
Florida Jet Week	Florida Jet Week, the World's largest event for Professional "Jet Certified" Radio Control Pilots comes to Lakeland's Linder Airport in March. Approximately 170 pilots from all corners of the globe will fill the skies of Lakeland with 200 mph jet replicas, many measuring over 10 feet. Especially exciting is the 50-pound, 10 foot wingspan A-10 Warthog of Desert Storm fame and the 9 foot long Boeing F-18. All of the jets are powered by real turbo-jet engines.
Top Gun (Florida, USA)	It is the best of the best by invitation only competing for over \$25,000 in cash and prizes, and to see who may acquire the title of "Mr. Top Gun". There are also numerous awards of excellence given out each year.
Jet Over Kentucky (USA)	Jets Over Kentucky Week will offer even more excitement for 2017. Jets Over Kentucky drew 164 pilots and 10,000 spectators last year. We're expecting another large crowd and pilots from all over the world to attend for 2017.
Best in the West Rally (USA)	Best in The West Jet Rally is a non-compete event, this is an open, fun-fly event with very few restrictions. The precise number of participant is not available.
Ottawa Valley Jets (Carp Airport)	Flying event for both turbine and EDF jets for MAAC Zone G. For EDF, 70MM fan and landing gear are minimum requirements. Pilots will enjoy the 3900 foot long, 100 foot wide paved runway. Wide open flying area, relaxed friendly atmosphere, focused on flying. A good time for the whole family, and a great addition to the Father's Day weekend celebrations. Located in Carp, Ontario, just minutes from downtown Ottawa.

Discussions with the Wingham RC Jet Rally organizer, Mr. Blair Howkins, confirmed that even if the event had a steady growth over the last years, there is room to further develop the event and to generate more revenues for stakeholders involved.

Year after year, the objective for Mr. Howkins is to reach a break-even point, but generating some net earnings would help developing and enhancing the event. Both in the U.S. and Canada, Mr. Howkins is seeing more and more new hobbyists participating to similar events and an increase in spending at those events.

7.1.2.3 Targeted Market and Clienteles

RC Jet hobbyists are the key targeted client segments. Since we suggest expanding scope and including turboprops aircraft and potentially drones, marketing efforts should focus on attracting these new segments.

In the upcoming years, the main markets to target will be Canada and the U.S. In Canada, most RC Jet hobbyists are already aware of the value proposition of the event. Nevertheless, marketing material should emphasize the new segments.

For the general public, Southwest (including GTA) and Central Ontario markets should be at the heart of promotional activities. For the U.S. market, marketing efforts should be focusing on neighboring states, including Michigan, Wisconsin, Ohio, New York and Pennsylvania. Some pilots and visitors of those states already attended the event in recent years.

7.1.2.4 Marketing and Promotion

In order to learn more about what makes these larger events successful, our team contacted Mr. Frank Tiano. He is well-known in the RC Jets community because of the numerous events he helped put in place. Mr. Tiano is the principal manager and organizer of the two largest RC Jet events in North America, which are the Top Gun and Florida Jet Week events. The following presents a list of “Best Practices & Ideas” to help grow the RC Jet event.

- **Timing is everything:** Need to set the event at a moment that suit pilots and visitors. A good example is to organize the event during a long weekend or during summer vacation.
- **Infrastructures:** To have a successful event and make people want to come back, you need good hotels, restaurants and other types of accommodations. Need a large parking, storing place, food & drinks on site and toilets.
- **Night activities:** Pilots and visitors are attending the RC Jet events because they want to have a great time. After a complete day of flights, it is important to organized additional activities at the airport or in close proximity of the airport, for example, in a local bar or a rented room.
- **Air Show:** In order to diversify the offering and to attract visitors, it is recommended to do a one (1) or two hours (2) Air Show on each day of the event, presenting special aircrafts and pilots. The Air Show is the key element that attracts visitors. In some U.S. events, they invite the National Air Guard for a short demo.
- **Marketing:**
 - Other than specialized RC Jet websites, blogs and Social Media, it is recommended to invite TV stations to the pilot's preparation day, where they are preparing their equipment and performing test flights. It is important to give visibility to the event before the official demonstrations begin.

- Radio Stations are also a good communication channel for those types of events.
- Attracting U.S. renowned pilots can also be a good idea to create awareness of the event. Need to be ready to spend money in order to pay their travel costs. Minimizing the travel distance from the airport is important, initially it would be better to focus on the neighbouring States (Michigan, Wisconsin, Ohio, New York and Pennsylvania).
- Frank mentioned that one of his contacts in the U.S. is a specialized Marketing Firm that does all the promotion/flyers for his events. He knows well the market and how to attract visitors.
- **Warbird:** It can be a great idea to bring Warbird and Vintage RC Aircrafts at the event in order to diversify the pilots and visitors. Drones might also be considered, but are less related to RC Jets than RC Props Aircrafts.

7.1.3 Aviation Hangars Development

7.1.3.1 Concept Definition

During the stakeholder interviews, existing tenants have expressed their interest to build or lease hangars to support their business expansion needs or store their personal aircraft. A local tenant told us that he had plans to build an additional six (6) hangars, three (3) of which would be for his own use. Although, the six-hangar project may still be an opportunity, but additional conversations held with other airport tenants lead us to conclude in the possibility to develop aviation hangars at Wingham airport.

Based on the level of interest expressed by interviewees for the construction of aviation hangars, we propose marketing on Year 1 the development of three (3) hangar units, two (2) south and one north of Apex's hangars (see Figure 9 (next page)). Following Phase 1 development, we suggest building two (2) additional rows of four (5) hangars each west of the existing hangar buildings. For budgetary purpose, assuming that Phase 1 hangars will be occupied by Year 3, we budgeted the construction of four (4) additional hangars on Year 4.

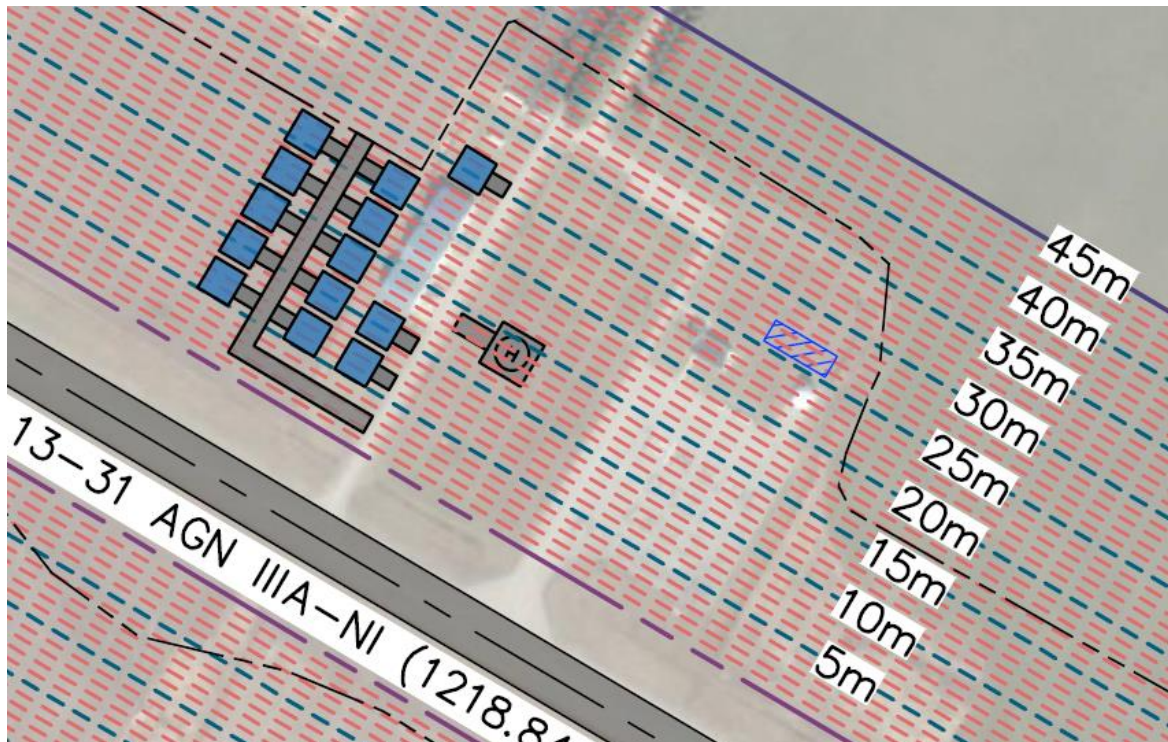
In terms of ownership, the concept suggests that the hangars be built and owned by the private sector limiting the airport's role to leasing land to the hangar owners. Figure 9 shows the proposed development plan.

Figure 9 - Proposed Hangar Development Site at Wingham Airport



On the next page, the next figure (Figure 10) presents the proposed development concept in regard to the OLS. The most southern hangars would have a height restriction of 5 meters. The current design would also limit aircraft movement on the new taxiway when an aircraft is on the runway or approaching. No vehicle or aircraft can be parked on the new taxiway on the east-west portion of it since the OLS allows only for a 2 to 3 meters clearance.

Figure 10 - OLS for the Hangar development concept



The development of the taxiway west of the existing hangars will be used by both aircraft and cars for taxiing and accessing Phase 2 hangars and subsequent phases. The concept plan also includes the construction of a helicopter strip in front of the Apex Helicopters hangars. The helicopter strip will support safety and security of helicopter operations at the airport. The 20x20m pad area could be converted into a staging area to host RC pilots' tents and equipment during the RC Jet event.

7.1.3.2 Capital Cost

As shown in Figure 9, the development of Phase 2 units behind the existing row of hangars will require the construction of a taxiway to access the new lots. The cost of the taxiway was estimated at \$156,000 (Tetra Tech). This expansion would allow for the construction of ten (10) new standalone hangars with an estimated 2500 sq.ft. size. For the purpose of this exercise we estimated that half of the hangars (5) would be used for commercial purpose (requiring water, sewer, electricity and heating) and the second half for private purpose (requiring only electricity without heating). All of the hangar construction costs will be borne by the developer/owner.

The Phase 2 commercial half in addition to Phase 1 hangars (also commercial) will be required to have their own water and sewer (septic) system. As these public services are not available on

the hangar side, we also evaluate the cost of developing a new septic system and water wells. A septic system to serve up to ten (10) hangars has an estimated cost of \$150,000. Furthermore, four new water wells would be required for a total of \$60,000 (\$15,000 per well).

The taxiway, septic system and wells costs represent an important investment for an airport the size of Wingham. When discussing with interested parties the possibility to have them pay for a portion or all of the cost, they did not close the door. As such, we are proposing two development scenarios suggesting different approaches to fund this project.

The development concept also proposes the construction of the helicopter strip at a cost of \$87,000, again to be borne by the user.

7.1.3.3 Revenue Projections and Profitability

Table 21 lists the assumptions used to determine the annual amount of taxes levied on the constructed hangars and the amount corresponding to leasing revenues.

Table 21 – Assumptions of the general aviation hangar development concept

Item	Description	Rate / Cost
Land lease rate	Annual rate charged per sq.ft. of leased land. Based on benchmark average.	\$0.32* *increased by 2% every 5 years
Property taxes rate	Morris-Turnberry Rate for commercial use as per 2017 Tax Schedule (Commercial Occupied)	0.01358* *increased by 2% every 5 years
Building Assessment Value	Three (3) 2,500 sq.ft. units constructed in Phase 1 (Year 1). An additional four (4) 1,500 sq.ft. units constructed in Phase 2 (Year 4) followed by one unit every year between Year 5 and Year 10 for a total of 10 units. <ul style="list-style-type: none"> Phase 1 units: construction cost based on \$70 per sq.ft. (concrete and heated hangar) Phase 2 units: construction cost based on \$42 per sq.ft. (unheated soft hangars (not winterized) for GA aircraft storage) 	\$700,000
Taxiway/Road Access	8m width taxiway. Total construction cost estimated at \$156,000	\$156,000

Fuel sale	<p>\$1.72/litre as per September 2017 price</p> <p>Assumptions:</p> <ul style="list-style-type: none"> • Based on Cessna 172 aircraft fuel burn (approx. 35 liters per hour) • All fuel consumed is assumed to be purchased at PR7 • 75 fl.hr - Average flight hours per year, per aircraft <p>One (1) Cessna 172 aircraft per constructed hangar, for a total of 7 aircraft (3 for Phase 1, 4 for Phase 2)</p>	
Fuel cost	As per 2016 budget actual, cost of fuel sold accounts for 81% of fuel sale	
Fuel Tank Maintenance	Additional cost to maintain the fuel tank is estimated at \$750 on Year 2 and \$1,500 on Year 5.	
Sceptic system and water wells	<p>Sceptic system: \$150,000</p> <p>Water wells: \$60,000</p> <p>This new infrastructure is required for the commercial hangars planned for Phase 1 and an additional 5 hangars in future development phases.</p>	\$210,000

Scenario A – Cost Recovery Model

This model would see the Township of North Huron providing the funds for the construction of the infrastructure - septic system, water wells and taxiway. The Township would recoup its investment by imposing a development charge to each new tenant. For the septic system and water wells, it is assumed that eight (8) commercial hangars will require the service; therefore, each owner will pay 1/8 of the infrastructure cost in a lump sum amount on their first year of establishment. The same mechanism will apply for the construction of the taxiway needed for Phase 2 hangars. Each of the 10 hangar owners will be charged 1/10 of the taxiway cost to cover for the development of the infrastructure.

Table 22 shows projected 20-year net revenues for Scenario A.

Table 22 - Projected 20-year net revenues for scenario A

	Year 2	20-Year Forecast
Revenues		
Property Taxes *MT Tax Rate applied	\$7,135	\$257,185
Land Leases *Land lease of \$0.32/sq.ft	\$2,400	\$113,631
Fuel Sales	\$13,545	\$1,091,117
Sceptic system/water wells – cost recovery	\$78,750	\$210,000
Taxiway construction – cost recovery		\$156,000
Total Revenues	\$101,830	\$1,827,933
Expenses		
Fuel Cost	(\$10,971)	(\$883,805)
Fuel Tank Maintenance	(\$765)	(\$31,050)
Sceptic system (built on Year 1)		(\$150,000)
Water wells (built on Year 1)		(\$60,000)
Taxiway construction (built on Year 4)		(\$156,000)
Total Expenses	(\$11,736)	(\$1,280,855)
Net Revenue	\$90,094	\$547,079

Total net revenue for the 20-year period is estimated at \$547,079.

Scenario B – Fee Reduction Model

For Scenario B, we suggest the development of Phase 2 be given to a private developer. To entice such a developer, we suggest that both Morris-Turnberry and North Huron Townships waive or reduce significantly taxes and land lease fees for a period that allow the private developer to recoup his investment to build the taxiway and the water-septic systems. We estimate taxes and land lease fees will need to be significantly reduced for 15-20 years before the developer can recoup its investment. After this compensation period, property taxes and leasing fees due by the hangar owners will be collected again.

No financial model has been created for this option. Scenario A has been used for the 20-year consolidated financial projections found in Section 10.1.

7.1.4 Tourism Fly-In Packages for GA Pilots

Wingham Airport has the potential to become a destination stop for the GA pilot community. Pilots are looking for a reason to fly and things to do over a day, weekend or more. Wingham and the surrounding communities are able to offer such experiences. We recommend developing Tourism Fly-In packages promoting Wingham's region tourism attractions to the recreational pilots and business aircraft owners segments. Packages should meet the needs of tourists increasingly looking for turnkey solutions, convenience and simplified booking process. Given its expertise in managing tourism activities, we recommend that part of the promotional and marketing efforts be administered by the County of Huron Tourism Office. For example, the tourism program administered by Huron County focuses on destination marketing and development. This work involves publishing compelling collateral content that draws visitors to the region and working with partners to enhance the visitor experience.

Developing and promoting the packages to the GA audience will generate additional traffic at the airport, leading to increased fuel sales and economic activity for the Township of North Huron and across the County. The plan to develop additional private hangars should also be marketed to those new visitors. The development of the packages as well as the marketing material that will accompany the promotional efforts should be done in collaboration with local, county and regional tourism organizations.

7.1.4.1 Proposed Fly-In Packages for Wingham

The proposed packages revolve around two (2) main themes: heritage and discovery (especially the Blyth Festival and Alice Munro) and outdoor activities (bike, hiking, cross-country skiing, etc.).

Alice Munro and Local Heritage Tour

Wingham is a beautiful rural town located in North Huron, Ontario. For this package, we recommend promoting the local cultural scene. Wingham is renowned for its local literature scene. The region offers a wide variety of cultural activities, ranging from theatres, museums and other compelling point of interest. To name a few, here is a list of some attractions that should be proposed in this package:

Table 23 - List of proposed attractions for the Alice Munro and Local Heritage Tour

Name	Opened From	Activities
Alice Munro Literary Garden	Full time May to August or; By appointment from September to May	Tribute to the literary achievements of Wingham native and internationally renowned author Alice Munro
Alice Munro Walking Tour	All year around	Self-guided tour of points of interest in the Town of Wingham relating to Alice Munro
North Huron Museum	May to August or; By appointment from September to May	The North Huron Museum celebrates the history of the North Huron area from the Paleolithic era to modern day.
Town Hall Heritage Theatre	All year around, may vary depending proposed plays	Mostly local plays and music concerts
Festival of Wizardry	1 weekend in mid-October	The concept of this festival is to recreate the fantastic universe of Harry Potter, with various fun activities.
Breweries and wineries: Cowbell Brewing + Maelstrom Winery + The Neustadt Spring Brewery + MacLean's Ale + Toity Cellars' Winery	By appointment during summer period	Local beer tasting and guided tour of the brewery. All located approximatively at 30 minutes from Wingham.
Sea Buckthorn Golden Orchard	Summer period	Self-guided or guided visit of the orchard with picnic areas. Located 12 minutes north of Wingham.

Once arrived at the Wingham Airport, the pilot will have the option to call a taxi (Wingham Taxi) if he plans to stay in town. Currently, the closest car rental company is located in Listowel (30 minutes south-west of Wingham).

Therefore, strategies should be considered to bring a car in town before the pilot arrival, or to find a local company/resident that would be willing to rent cars. In the car rental scenario, the car should be waiting for the pilot's arrival at the airport.

For this package, we recommend pilots stay in Wingham (the Maitland Manor Bed & Breakfast or the Wingham Lindon Motel among others), and from there, visit nearby attractions. The first activity to undertake would be the Alice Munro Walking Tour so visitors can get a taste of the things to see and do in town.

During the walking tour, the North Huron Museum and the Alice Munro Garden would be proposed. Also, pilots will be invited to visit the Sea Buckthorn Golden Orchard, the Town Hall

Heritage Theatre and/or local breweries and wineries. Note that most of the activities proposed in this package can be done within one day.

Rebates should be proposed to create a compelling bundle offer to pilots. We recommend including the following:

- Rebates on key activities highlights listed in Table 21;
- Coupons for local partner restaurants;
- Preferential rates with partner hotels;
- Preferential rates on outdoor activities;
- Preferential rates on car rental companies and taxis; and
- Aviation fuel rebate.

Blyth Festival Package Blyth is a picturesque town located 15 minutes south-west of Wingham. The most important attraction of this small Town is the Blyth Festival which attracts an average of 20,000 visitors annually and proposes 45 sessions from mid-June to Labor Day. Once arrived at the airport, the airport's staff could provide a small map highlighting points of interest in Blyth. Taxi, car rental or shuttle service will need to be offered. Once arrived at destination, the pilot will have the opportunity to visit one of the following attractions:

- The Blyth Festival: This is the core attraction of the Town. Most of the plays are presented in the afternoon or at night and vary in length.
- Before the beginning of the play's, the following activities could be proposed:
 - Visit the Cowbell Brewing Co, probably the best brewery in the County of Huron according to locals. They offer a large variety of high quality crafted beers.
 - Visit the Blyth Farm Cheese where you can taste one of the best Artisan Cheese in the region.
 - Visit the Part 2 Bistro, a restaurant loved by locals and visitors for its fresh and delicious food.
 - Visit the Wonky Frog Studio, a charming little gift boutique that offers artisanal decoration, paints and furniture's.

Once the day is over, the pilot will have the opportunity to rest at the Blyth Inn or to return to Wingham. Similar to the first package, rebates should be proposed to create a compelling bundle offer to pilots (See the list at the end of the Alice Munro and Local Heritage Tour.).

7.1.4.2 Targeted Markets and Clienteles

The target demographics for the proposed packages will be mainly composed of pilots seeking hassle-free and turnkey solutions for a daily, week-end getaways or longer stay. Packages will cater to different clientele profiles. Pilots selecting the Culture and Heritage packages might

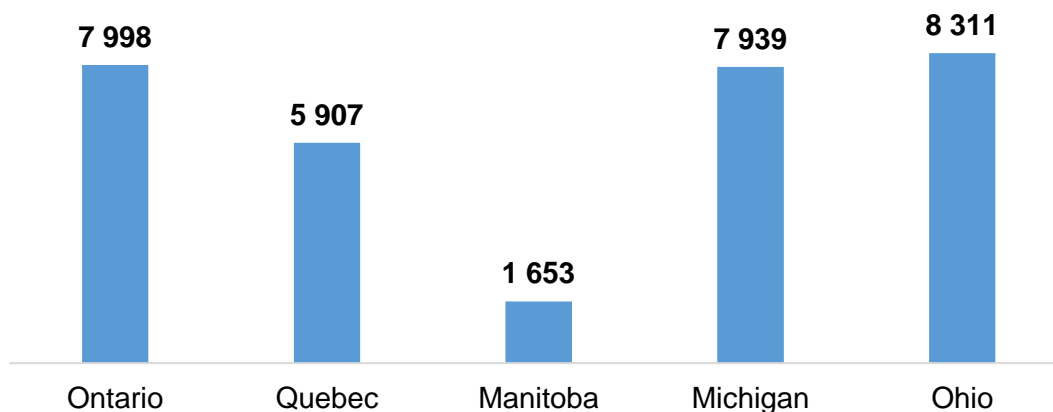
typically be older couples seeking a more relaxing and cultural experience. The younger pilot generation might feel more engaged by the Hiking package, especially if they bring their children.

A large share of the clientele will be Ontarians (main market), with occasional visits from pilots from other states and provinces. Marketing efforts should be focusing on the Ontario market first. In a few years, depending on the success of the tourism packages, adding promotional efforts in Quebec and the U.S. Great Lakes States like Michigan and Ohio could be considered.

General Aviation (GA) Market Size

The GA market in Ontario is one of the biggest in North America with 7,998 piston single engine registered private aircraft in 2016. Representing approximately 30% of the Canadian GA fleet, Ontario is the Canadian province with the largest fleet. The Province of Quebec arrives in second position.

Figure 11 - Number of private registered private aircraft per Province and State



7.1.4.3 Capital Cost

No capital cost has been budgeted for the tourism fly-in packages. As for expenses related to the development and promotion of the fly-in packages, the Township of North Huron should be assuming a portion of the cost. Table 48 (section 13.4 – Marketing Plan) details the budget requirements to support the development of the marketing material and promotional efforts. Starting on Year 4, revenues generated from the increased pilot activity will cover for marketing expenses.

7.1.4.4 Revenue Projections and Profitability

Promoting fly-in-packages to the GA pilots' community will result in increased aviation traffic for Wingham airport. Conservative forecasts suggest that the marketing effort will generate 50 visits on Year 1, increasing steadily during the following years to reach 200 aircraft visits on Year 9. The forecasted increases are for a budgetary purpose only. We recommend to CPR7 that it measures the net traffic gains on first years and adapts forecast accordingly.

Table 24 shows the projected traffic movements between Year 1 and Year 10. Air traffic movements will reach a peak on Year 9.

Table 24 - 10-Year Projected Increased Traffic in CPR7 Resulting from Fly-In-Packages

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Aircraft Movements	50	70	90	110	130	150	170	190	200	200

Note: 1,221 transient movements were registered in 2016.

The increased traffic will translate into additional fuel sale revenue for CPR7 not to mention the economic impact for the Town and the County resulting from purchasing of goods and services by pilots and their families. As for the benefit for the airport, Table 25 presents the set of assumptions used to calculate the impact increased traffic will have on revenues.

Table 25 - Assumptions Used for Calculating Fly-In-Packages Revenues

Item	Assumption
Gross fuel sales	Based on \$1.72/litre - (September 2017 average price)
Fuel cost	Approx. 81% of fuel sale value As per 2016 actual
Percentage of visitor aircraft purchasing fuel	36%
Average volume of fuel purchased	150 litres
Aircraft parking fees	\$6.94 per day (gross)
Number of parking days	2 days on average per aircraft visit

Revenues will be drawn from fuel sale and parking fees.

Table 26 compares revenues to the amounts necessary to market the tourism fly-in-packages. Section 13.4 provides the marketing budget breakdown and explains how the funds could be used to promote the tourism packages to the GA pilots' community.

Table 26 - 10-Year Projected Revenues and Expenses for CP7 Tourism Fly-In-Packages

Revenues/Expenses	Year 1	10 Year Total
Revenues		
Fuel Sales	\$4,644	\$126,317
Aircraft Parking	\$694	\$18,877
Total Revenues	\$5,338	\$145,194
Expenses		
Fuel cost	\$3,762	\$102,317
Marketing and Promotion Activities (see section 13.4 for breakdown)	\$8,300	\$38,999
Net Revenue	(\$6,724)	\$3,878

*Cost for CP7 to purchase fuel has been subtracted.

Overall, over ten (10) years, fly-in-packages are expected to generate \$3,878 in gross profit. The bulk of the marketing efforts will be needed in the first three years to create brochures, develop a dedicated or updated website (Year 1) and attend aviation events and trade shows. Following the 3-year period, expenses have been reduced to \$2,300 since most of the marketing material will have been developed. It's also worth nothing to add that the pilots visiting Wingham will also generate positive economic impacts throughout the region. Those impacts have not been calculated in our analysis, but they will be substantial.

7.2 Goderich Municipal Airport (YGD)

7.2.1 Residential Development (Southwest Area)

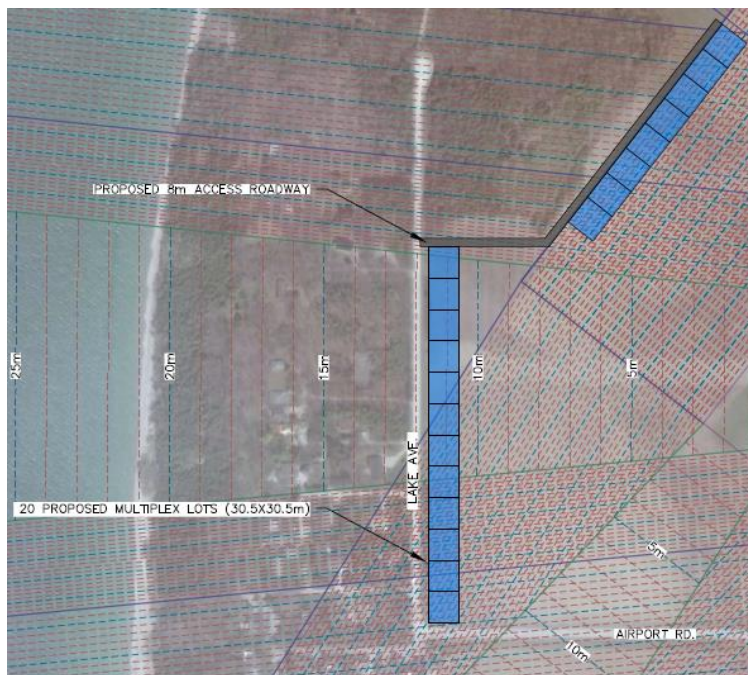
7.2.1.1 Concept Definition

The County of Huron is a thriving region and flourishing community and home to 60,000 people. The County and especially Goderich offer the opportunity to accomplish personal goals, work in dynamic environment while combining the benefits of urban and rural lifestyles. Many people met during the interviews have highlighted those advantages and underscored the growing interest from families and retirees to move to the area. Discussions held with general contractors and realtors confirm this trend. Many mentioned that the housing market was experiencing a steady growth region-wide and that residential real estate was scarce.

From a location standpoint, Goderich Airport has the advantage of being in relatively close proximity to the town and services. The Airport is also bordered to the west by a residential development along the Lake Huron shoreline. Most of the residential development is situated just across the western Airport property boundary delimited by Lake Avenue.

Also, just east of Lake Avenue lays one of the largest airport's land parcels with ideal dimensions to develop residential units. Overall, when considering the need for additional housing development in Goderich and the complementarity with the neighboring residential development, we suggest developing the southwestern parcels for residential use. Figure 12 shows the site layout plan for the construction of 20 multiplex units, occupying approximately five (5) acres of airport land.

Figure 12 - Proposed Site Layout Plan for Residential Development



The proposed plan is to develop twelve (12) multiplex lots along Lake Ave and an additional eight (8) lots along a new access road to be built along the airport western perimeter. Construction schedule will span over 10 years at a rate of two multiplex units per year for a total of 20 units over Year 10. Construction of the first two multiplex units is scheduled for Year 1. Average multiplex lot size is 10,000 sq.ft. (100x100 ft.). Each unit includes four (4) apartments, parking and plenty of backyard space to enjoy an unmatched view of the airport. The proposed layout optimizes land utilization, respect the OLS limits with the nearby grass strip runway and provide the minimum road setbacks indicated in the By-Laws.

As previously stated, a sound study will be required to meet MOE D-6 Guidelines to see if residential is possible, the study to be included with planning applications. Zoning will have to be changed as current zoning only permits airport-related and aviation uses. Section 11 discusses the amendment to be made to accommodate residential development.

7.2.1.2 Supporting Data

Large general contractors and home builders who are doing business in the Goderich area confirmed that the market was in good health. They mentioned having difficulty to find residential lots to meet demand for housing units. Realtor data for the region of the Goderich is aligned with the Contractors' statements. Demand for single homes in the last three (3) years increased by 17%, reaching 130 units sold in 2016, compared to 111 units in 2013. Average sale price follows national trends, increasing by 16% from \$212,168 to \$245,336 for the same period¹⁰. As indicated in the market outlook, the amount of time a property takes to sell has also significantly dropped. In 2013, properties stayed on average 120 days on the market compared to 79 days in 2016. A 63% drop in less than three (3) years.

7.2.1.3 Capital Cost

All costs will be borne by the developer. The Town of Goderich would be selling the 5-acre parcel of land to developers for the construction of the twenty (20) multiplexes. The value of the housing development was estimated at \$8,000,000, around \$400,000 per multiplex unit. The entire building construction cost, including the cost to bring services to the site will be at the charge of the developer.

7.2.1.4 Revenue Projections and Profitability

Property taxes levied on the \$8 million residential development represents the bulk of the revenues. The remaining portion comes from the expected returns made by investing the money from the land sale into equity funds. An acre of residential land (unserved) is worth around \$82,500 based on information shared by general contractors¹¹. Selling 5 acres to the developer would generate about \$412,500. Table 27 details revenues generated over five (5) and ten (10) years.

¹⁰ Huron Perth Association of Realtors (Aug 11)

¹¹ Conversation held with people at Larry Otten Contracting. <http://www.larryottencontracting.com>.

Table 27 - Financial Projections for the Residential Development Concept at YGD

Items	Year 2	5-Year Period	10-Year Period
Revenues			
Sale of Land – Expected equity fund return (2.75% annual return)	\$11,344	\$45,375	\$102,094
Property taxes Tax rate – CT occupied, based on ACW Township 2017 Tax Schedule	\$4,441	\$44,406	\$202,933
Total Estimated Revenues	\$15,784	\$89,781	\$305,027

Total estimated revenues for the 10-year period reach \$305,027. Taxes levied on the newly constructed properties represent 67% of total revenue. Understanding that the airport sits on ACW Township lands, all taxes raised go to the Township and not the Town of Goderich. In our recommendations, we are proposing a revenue-sharing mechanism that will foster cooperation and help support maintenance and rehabilitation of airport infrastructure.

7.2.2 General Aviation Hangar Expansion

7.2.2.1 Concept Definition

Goderich has registered 3,177 aircraft movements in 2016 and about 38% were visiting aircraft (1,222 movements). Transient traffic has grown by 40% since 2014 despite limited efforts made in promoting the airport. The increased traffic represents an opportunity for YGD to entice some of the regular visitors to move permanently at the airport or have them considered short-term lease options. Presently, all of the 17 hangars are leased out.

We recommend to YGD to verify the appetite of the market for hangar construction and rental opportunities. The Airport should advertise its intent to rent its property to interested developers or private parties looking to build hangars. Under this scenario, the Town of Goderich will act as the landlord, renting the land to the developer/hangar owner. The proposed concept suggests developing four (4) stand-alone hangars of 1,500 sq. ft. each to accommodate needs of GA aircraft owners. This first construction phase could be followed by other installments if demand is there.

7.2.2.2 Targeted Markets and Clienteles

General aviation pilots will be the primary client segment. Efforts should focus on promoting the hangar development opportunity to local and transient pilots. The first promotion effort would be to advertise the availability for general aviation hangars on the airport's website. A more rustic, but efficient way to communicate the development of hangars to the airport visitors is to display

posters in the terminal and to create leaflets that can be given to transient pilots. On a larger scale, the airport could promote the opportunity to rent a hangar at the airport through pilot clubs and associations. An email/newsletter can be send to the clubs/associations responsible or, if available, the information can be transmitted through a newsletter.

7.2.2.3 Supporting Data

Existing airport users had already expressed their interest in renting space at the airport to the former Airport Manager. At least two (2) to three (3) individuals have mentioned their desire to lease hangar space. We suggest the airport should reach these individuals to revalidate their level of interest and start building a waiting list of interested parties.

7.2.2.4 Development Site

We suggest developing two (2) hangar rows of four (4) units each. Phase 1 development site is located west of the existing hangars. A second development phase comprised of 4 units is also projected to the east when phase 1 buildings would have been rented out.

In terms of development timeframe, the financial model assumes that the first block of 4 hangars will be built on Year 1 followed by the construction of four (4) four additional units on Year 4. Figure 13 shows suggested locations for the two (2) development phases.

Figure 13 - GA Hangar Development Site at YGD



7.2.2.5 Capital Cost

All of the hangar construction costs will be borne by the developer. The Phase 1 building and site already provides direct access to the taxiway. As for Phase 2 hangars, a new taxiway will have to be built. Infrastructure costs are assumed to be covered by the developer.

7.2.2.6 Revenue Projections and Profitability

Revenues come from two (2) principal sources: property taxes and land leases. Both types of revenues will be included in our analysis even if under the current arrangement, taxes levied on airport property go to the ACW Township and not the Town of Goderich. New taxation revenues represent a financial benefit for the community. Table 28 shows the assumptions used to build our revenue projections.

Table 28 - Used Assumptions for the Construction of the Four (4) GA Hangar Units at YGD

Item	Description	Rate / Value
Land lease rate	Annual rate charged per sq. ft. of rented land. Based on benchmark average.	\$0.32
Property taxes rate	Municipal Tax Rate for commercial land use as per 2017 Tax Schedule	1.072656%
Building Assessment Value	Phase 1: Four (4) 1,500 sq. ft. units to be constructed @ a cost of \$42.00 / sq. ft. on Year 1	\$252,000
	Phase 2: Four (4) 1,500 sq. ft. units to be constructed @ a cost of \$42.00 / sq. ft. on Year 4	\$252,000
	Total construction cost (8 hangar units)	\$504,000
Fuel sale	Fuel mark-up estimated at \$0.43/litre - based on September 2017 fuel price Assumptions: <ul style="list-style-type: none">• Based on Cessna 172 aircraft fuel burn (approx. 35 liters per hour)• All fuel consumed is assumed to be purchased at YGD• 75 fl.hr - Average flight hours per year, per aircraft One (1) Cessna 172 aircraft per constructed hangar, for a total of 8 aircraft	
Fuel Tank Maintenance	The new constructed hangars will increase the number or based aircraft from 18 to 26. Additional cost to maintain the fuel tank is estimated at \$800 per year.	

Land lease and taxation revenues over a 10-year period amount to \$70,271. Table 29 provides the breakdown per revenue source.

Table 29 - YGD General Aviation Hangar Development Financial Projections Breakdown

Revenue Item	Year 2 Revenues	5-Year Estimated Revenues	10-Year Estimated Revenues
Revenues			
Property Taxes	\$2,703	\$13,515	\$41,087
Land Leases	\$1,920	\$9,600	\$29,184
Fuel sales (net revenue)	\$4,515	\$18,609	\$70,301
Total revenues	\$9,138	\$41,725	\$140,572
Expenses			
Fuel Tank Maintenance	\$811	\$3,264	\$7,344
Net Revenues	\$8,327	\$38,460	\$133,228

No revenue has been budgeted for Year 1 as part of the year will be dedicated to construction. This analysis gives a taste of how much revenue could be generated from one block of hangars. As opposed to other revenues, direct purchase and maintenance costs must be accounted for fuel sales. Table 29 shows net revenue for fuel. Net revenues total \$133,228 for the 10-year period.

7.2.3 Aviation Commercial Activities

7.2.3.1 Concept Definition

YGD is home to several privately owned hangars that may represent great leasing opportunities for aerospace and aviation companies looking at expanding or relocating their business. During our site visit, an inventory of the vacant buildings was performed to determine their marketable potential. The objective was to confirm if overall building appearance and condition would be attractive to potential buyers and tenants.

This exercise showed the possibility to market the 26,400 sq. ft. building east of the terminal, owned by a private investor. This hangar is overall in fair condition and with minor upgrades and alterations to the interior; the building could be used for commercial or light industrial aerospace activities. Building sits right next to the apron, which is ideal for businesses needing to move regularly aircraft in and out of the hangar for repair, inspections or any other activities requiring convenient access to the airside area.

One of the owners also shared some concept plans to redesign the interior, add additional parking stalls and redo the building exterior finishing. We suggest including this hangar rental opportunity in all of the Town's future efforts to promote the airport.

In Section 7.2.4, we recommend developing Fly-In-Packages to promote tourism attractions to GA pilots and entice them to fly in YGD to visit the region. It might be worthwhile to advertise the commercial hangars in the marketing material destined to the GA pilots since many of them work for the aerospace industry and some owns businesses in the sector.

7.2.4 Tourism Fly-In Packages for GA Pilots

We recommend growing the General Aviation activities at YGD through the development of Tourism Fly-In Packages. This section describes the different packages we suggest developing for Goderich in order to promote local tourism attractions, entice pilots to fly to Goderich and visit the region.

Packages will help attract additional traffic, increase fuel sales and activity at the airport. The increased volume of airport users also represents a great opportunity to market the hangar construction and rental opportunities at YGD. The development of the packages as well as the marketing material that will accompany the promotional efforts should be done in collaboration with local, county and regional tourism organizations. For example, the tourism program administered by Huron County focuses on destination marketing and development. This work involves publishing compelling collateral content that draws visitors to the region and working with partners to enhance the visitor experience.

7.2.4.1 Proposed Fly-In Packages for Goderich

The proposed packages revolve around three themes, which are: 1) Goderich Heritage Tour, 2) The Fishing Experience and 3) Outdoor Adventure.

Goderich Heritage Tour (Spring, Summer and Fall)

Goderich promotes itself as one of the prettiest towns in Ontario and the heart of "Ontario's West Coast". Other than its numerous outdoor attractions, Goderich is a town with a fascinating history and rich cultural assets.

In this package, we recommend promoting the local museums, art galleries and other key landmark attractions to experience in the Town and region. To name a few, here is a list of some attractions that could be proposed in this package:

Table 30 - List of Museums, Art Galleries and Theatres in Goderich

Name	Opened From	Activities
Huron Historic Goal	May to October	Visiting tour of the historical site
Huron County Museum	All year around	Permanent and seasonal exhibition galleries
The Livery (Goderich Little Theatre)	Vary depending the schedule	Professional and Amateur theatre in the heart of downtown Goderich
The Reuben R. Sallows Gallery	All year around (12:00 to 17:00)	Art gallery
Goderich Co-op Art Gallery	All year around (10:00 to 17:00)	Art gallery
Goderich Lighthouse	Closed to public	Visit the Park, the lighthouse is within the park. Great view of the port and the Lake Huron

After arriving at the Goderich Airport, the pilot will have the option of calling a taxi if he/she plans to stay in town, or, a car can be rented for the duration of the stay. In the second scenario (car rental), the car should be waiting at the airport terminal. Thrifty and Goderich Toyota are companies that offer car rental service. Also, at the arrival of the pilot, the airport staff will give a map of Goderich highlighting the Heritage Tours (see details below), points of interest and partner restaurants.

For this package, we would initially recommend pilots to follow the Heritage Tours, which consist of four (4) predefined paths of one (1) hour each that allows the visitors to discover the architectural and cultural history of this beautiful town. Through those tours, we suggest promoting the best attractions and restaurants along the paths. Because all of the proposed activities are directly located in Goderich, the visitors will gradually encounter the proposed activities along the Heritage Tour.

If the pilot planned to stay for more than one (1) day, he can either visit remaining Goderich attraction's or head out of town to discover the charms of other communities.

As mentioned for Wingham, rebates should be proposed to create a compelling bundle offer to pilots.

Note: depending on the season, some of the proposed museums, art galleries and theatres might not be opened.

Goderich Fishing Experience Package (Spring and Summer)

This package aims at promoting Goderich best-known fishing spots along Lake Huron and the Maitland River. Pilots will have two (2) fishing options, standard fishing on Lake Huron or fly fishing on the Maitland River. Once arrived at the airport, the pilot and its companions will be picked-up directly at the airport by the selected fishing guide. We suggest considering Maitland Valley Fishing Charters for fishing adventures on Lake Huron and Fly Fitters for fly fishing on the Maitland River.

Both companies have extensive experience and knowledge of these waters and already offer multiple packages that vary in type and length. For example, Fly Fitters offers the “Learn to Fly Fish” experience, a three (3) hour beginner workshop that gives a complete and detailed introduction to the relaxing and challenging sport of fly fishing. Single to Multiple day trip packages are also available for both companies. During each day of the trip, the guides will propose different fishing spots and short seminars on how to prepare the caught fishes for cooking.

It would be interesting to explore potential partnership between the two (2) local fishing guide companies in order to combine their currently proposed activities. This would offer pilots the choice of doing, for example, one day of fishing on Lake Huron and a day or two of fishing on the Maitland River. This partnership would offer more flexibility to pilots, which will be able to experience both types of fishing. The fishing companies could also be involved in funding the marketing of the package.

Outdoor Adventure Package (Autumn, Summer and Fall)

The rural County of Huron is home to a large variety of outdoor activities that will satisfy the most demanding adventurers. This package is based on the multiple natural assets and outdoor activities available directly in town, and in the various parks/reserves of the region. Three (3) main sites, and their respective activities, will be promoted through this package: The Falls Reserve, The Point Farm Park and The Beaches.

Falls Reserve and Point Farm Park both offer camping areas, hiking and cycling trails, swimming areas, bird observation and much more depending on the season (hunting in late October and cross-country skiing in winter). For each site, staff member will greet the pilot, provide a map of the park/reserve and explain where to perform some specific activities. During summer time, Goderich offers three (3) different beaches easily accessible from downtown. The city is also the starting point of many cycling and hiking routes. To name a few, the Tiger Dunlop and the Guelph-Goderich trails seem to be the most appreciated by locals and visitors.

In terms of equipment rental, 360 Bikes'n Boards could be a partner hence their downtown location. They offer bicycle and paddleboard rental. Similar to the other proposed packages, the

Outdoor Adventure Package will also offer rebates in local partner restaurants, hotels/camping/rooms, attractions and equipment providers.

7.2.4.2 Positioning – Markets and Clienteles

The markets and clienteles for the turnkey tourism packages are similar to those proposed for Wingham. Please consult Section 7.1.4.2 for more details.

7.2.4.3 Supporting Data

The development of the Fly-In packages concept is viable and relevant due to various market rationales. With its strategic location, Goderich is well positioned to attract a large population of GA pilots from various regions, including the province of Ontario and Quebec, but also pilots from neighbouring U.S. states.

According to our estimates, there are approximately 20,000 registered aircrafts in a one to two (2) hours of flight from Goderich (see details in the Marketing Strategy, Section 13.2.1.), which represent an enormous market to tap into. Also, the Goderich Sky Harbour Airport is an airport of entry and has all the customs clearance services on-site, which can accommodate international visitors and airport carrying up to 15 passengers and crews.

This concept also aligns with current and future economic development strategies of the County. Tourism being one of the key industry for the County of Huron, we identified compelling activities and attractions in order to build thematic packages that can catch the interest of various clienteles. These packages also concords with the Ontario's West Coast objectives to attract more tourists and increase spending, which can be achieved through catering to new client segments with higher income. Pilots fit well with those two (2) objectives.

7.2.4.4 Capital Cost

No capital cost has been budgeted for the tourism fly-in packages.

7.2.4.5 Revenue Projections and Profitability

Promoting fly-in-packages to the GA pilots' community will result in increased aviation traffic at YGD. Preliminary estimate suggests that visitor movements will augment by 5% on Year 1, followed by 1.6% annual increases reaching 16% on Year 10. The forecasted increases are for budgetary purpose only. We recommend to YGD that it measures the net traffic gains of year 1 and adapts the forecasted growth accordingly.

Table 31 represents the projected transient traffic when applying the estimated increases to 2016 movements.

Table 31 - 10-Year Projected Increased Traffic in YDG Resulting from Fly-In-Packages

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Aircraft Movements	50	70	90	110	130	150	170	190	200	200

In Year 10, it is estimated that an additional 200 aircraft will visit YGD to enjoy the many tourism attractions the region has to offer. The increased traffic will translate into additional fuel sale revenue for YDG not to mention the economic impact for the Town and the County resulting from the purchasing of goods and services by pilots and their families.

Regarding the airport, Table 32 presents the set of assumptions used to calculate the impact increased traffic will have on revenues.

Table 32 - Assumptions used for Calculating Fly-In-Packages Revenues

Item	Assumption
Fuel markup (%)	Approx. 25%
Fuel markup (\$)	\$0.43 Based on \$1.72/litre. Price charged at YGD in September 2017.
Percentage of visitor aircraft purchasing fuel	36%
Average volume of fuel purchased	150 litres
Aircraft parking fees	\$6.76 per day (gross) Assumed 2 days of parking per aircraft visit
Number of parking days	2 days on average per aircraft visit

Revenues will come from fuel sale and parking fees. As for landing fees, aircraft below 5,800 lbs are not charged any fees. Most GA aircraft fall under this weight category and therefore, no revenue has been budgeted for this element. Table 33 compares projected revenues to the promotional expenditures necessary to market the tourism fly-in-packages. Section 13.4 details how the marketing funds will be used to promote tourism packages to the GA pilots.

Table 33 - 10-Year Projected Revenues and Expenses for YGD Tourism Fly-In-Packages

Revenues/Expenses	Year 1	10 Year Total
Revenues		
Fuel Sale (Margin)*	\$1,161	\$35,109

Aircraft Parking	\$676	\$20,423
Total Revenues	\$8,972	\$55,532
Expenses		
Marketing and Promotion Activities (see section XYZ for breakdown)	\$8,300	\$38,999
Gross Profit	\$(6,463)	\$16,533

*Cost for YGD to purchase fuel has been subtracted.

Over ten (10) years, fly-in-packages are expected to generate \$16,533 in gross profit. The bulk of the marketing efforts will be needed in the first three (3) years to create brochures, develop/upgrade the website (Year 1) and attend air shows and trade shows. Following the 3-year period, expenses have been reduced to \$2,300 since most of the marketing material will have been developed. Section 13.4 provides the marketing expenses breakdown.

7.2.5 Scheduled Charter Service

7.2.5.1 Concept Definition

With road traffic congestion that often extends over rush hour, coupled with ongoing construction work and maintenance, travelling from Midwestern Ontario to the Greater Toronto Area (GTA) is becoming more and more challenging. Understanding that time is a non-renewable resource and that businesses are trying to optimize schedule efficiencies, this concept suggests developing scheduled charter service between the GTA (Billy Bishop Airport – YTZ) and YGD Airport to accommodate those travel needs.

Bruce Power is the largest employer in the region dealing with a wide array of vendors and contractors, the proposed air service will cater to Bruce Power suppliers that regularly travel to the area and to visitors and residents traveling back and forth to the GTA. The Town of Goderich and its airport are located 70 km south of the Bruce Power nuclear site in Kincardine, making it the ideal point of entry for companies conducting business in the region. Another advantage of the Goderich Airport (YGD) lays in the unique capacity of its infrastructure. With its 5,034 ft. main runway, YGD is the closest airfield in the region that can safely accommodate medium-size turboprop aircraft typically used by regional airlines to serve business travelers throughout Ontario.

Client Segments and Profiles

It is anticipated that Bruce Power suppliers will frequently use the air service. With \$15 billion in investment forecasted for the duration of the revitalization project, the energy company will create thousands of jobs and secure work for a myriad of contracting, engineering, consulting, manufacturing and service companies. Those contractors and engineers from the GTA having

to travel regularly to Bruce Power site are the targeted customers. In Section 7.2.6.2 we will further detail the size of that population and how Bruce Power has help to assess part of the demand for the air service.

Besides businesses that need to travel to the region, it is expected that other client segments will be interested in using the air link as well. Regional Business leaders, health requirements and tourists visiting the region during the spring /summer and early fall will also be part of the targeted clientele.

Flight Schedule and Frequency

The new air service can propose year-round or seasonal daily roundtrip flights between the two (2) locations using small turboprops aircraft such as the P-31 Navajo that could seat up to seven (7) passengers. Flight schedule will propose a flight departing from the GTA in the morning and returning late afternoon or early evening depending on user's preferences. Preferred travelling schedule, passengers forecast and overall interest from businesses leaders should be validated through an air service study. Depending on the volume additional flights can be added.

Airport Capital Assistance Program (ACAP)

Maintaining an annual scheduled Air Service carrying a minimum of 1,000 passengers per year for three consecutive years would render the airport eligible for Transport Canada's ACAP program (Airport Capital Assistance Program). This program provides federal funds to help eligible airports finance capital projects that will maintain and improve safety. To be eligible, the Airport must also be a certified airport and maintain the various manuals, plan and policies required.

Eligible airports

Airports that can receive ACAP funding if they:

- Are not owned or operated by the federal government
- Meet certification requirements
- Offer year-round regularly scheduled commercial passenger service. This means that in each of the three most recent calendar years, the airport handled at least 1,000 year-round regularly scheduled commercial passengers as reflected in Statistics Canada "official" passenger statistics. If you are not part of these statistics, you must complete a statutory declaration

ACAP evaluation criteria

To be approved for ACAP funding, you must:

- show that the airport cannot self-finance the project
- provide audited financial statements for the airport for the past three years

To be approved for ACAP funding, your project must:

- be needed to maintain or improve safety
- meet accepted engineering practices
- be justified on the basis of current demand

Transport Canada will consider funding projects to expand facilities only if you can show that the current facilities put safety at risk. Becoming ACAP eligible would enable the airport to receive up to 100% of reimbursement for project identified as Priority 1 and 3 in table XYZ.

Table 34 - ACAP Reimbursement per annual passenger enplanements

Year-round regularly scheduled commercial passengers	Percentage reimbursed by ACAP
1,000 - 49,999	100%
50,000 - 74,999	95%
75,000 - 99,999	90%
100,000 - 124,999	85%

Types of projects ACAP funds

ACAP funding is for projects needed to meet an airport's required level of safety. These are, in order of priority:

- Priority 1: Safety-related airside projects such as:
 - rehabilitating runways, taxiways and aprons
 - runway, taxiway and apron lighting
 - visual aids
 - sand storage sheds
 - utilities to service eligible items
 - site preparation costs, including directly related environmental costs
 - aircraft firefighting equipment required by regulation
 - aircraft firefighting equipment shelters
- Priority 2: Heavy airside mobile equipment (safety related) such as:
 - runway snowblowers
 - runway snowplows
 - runway sweepers; spreaders
 - winter friction testing devices
 - heavy airside mobile equipment shelters
- Priority 3: Air terminal building/groundside (safety related) such as:

- sprinkler systems
- asbestos removal
- barrier-free access

Types of projects ACAP doesn't fund

- land purchases
- feasibility, planning or zoning studies
- projects that have already been started or completed

7.2.5.2 Targeted Markets and Clienteles

As previously mentioned, we envision that people who need to travel to the Bruce Power site will represent a good portion of the future passengers' traffic. Based on conversations held with Bruce Power and Bruce County, there are several occasions where suppliers and tradespeople must travel to and stay in the area surrounding Bruce Power. Outages and maintenance campaigns, supplier employee meetings, senior management meetings and suppliers' events all require travel from the GTA to the Bruce Power site. During outages and maintenance campaigns, there will be up to 1,000 people who support work being undertaken at the Bruce Power site.

There are also many on-site meetings (often weekly) requiring employees to travel to the area for days or overnight trips. In addition to the supplier meetings, Bruce Power's executives and senior staff are often required to travel to the area to attend senior management meetings or meet with large suppliers. Finally, a number of suppliers have established a local presence in the region having staff from the GTA travel to work in the local office 1-2 days a week not to mention that many of those workers travel weekly to their head office in GTA.

In summary, the opportunity may exist to develop a scheduled air service that will cater to the Bruce Power workers, suppliers and senior staffers' client segments to generate enough volume to sustain daily flights between Goderich and YTZ. To help us assess the demand for the proposed air service, the Corporation of the County of Bruce in collaboration with Bruce Power, has accepted to distribute a survey to the company's top 15 suppliers. Apart from evaluating the demand for the air service, the questionnaire will help us to determine passenger's travelling requirements and preferences when it comes to flight destinations and schedules.

The survey was distributed to the suppliers in mid-September and three (3) weeks was given to respondents to complete the questionnaire. A similar survey should also be prepared for local and regional tourism agencies to assess the need from their clientele in using the air service.

From the result of this small survey, we have made some conservative passenger assumptions to estimate revenues the air link would potentially generate for the airport. The following sections present the preliminary results of the financial analysis.

7.2.5.3 Capital Cost

Existing airport infrastructure would be able to accommodate daily passenger flows and flight operations. Under the current assumptions (See section 7.2.6.4.), it is projected that passenger volume would not exceed five (5) passengers per flight. Current terminal size and layout could support expected enplanement volumes. However, interior design and overall look would have to be revamped to adequately accommodate a business clientele. We did not budget the cost to perform those cosmetic improvements.

Current human resources should suffice to support the daily flight. Discussions would have to be held with the regional air carrier to determine staff requirements to support passengers and ramp operations. However, current airport staff should suffice to accommodate forecasted passenger and aircraft traffic.

7.2.5.4 Revenue Projections and Profitability

Financial projections for the proposed air service have been based on the following demand and revenue assumptions.

Table 35 - Demand and Revenue Assumptions for the Air Service Concept

Items	Description	Assumptions
Revenue Assumptions		
Fuel mark-up	Approx. 25%	Corresponds to \$0.43 per litre (based on September fuel price)
Aircraft type / average fuel purchase per trip	PA-31 Navajo	172 liters
Airport parking fees	Parking on paved surface	\$10.88 per day
Airport landing fees	Waived with 200L fuel purchase	
Airport Improvement fees (per enplanement)	Charge per enplanement	\$20
Passenger Demand Scenario		
Estimated number of passengers per flight	Number of passengers boarding in YGD	5
Passenger load	Percentage of seats occupied	71%

	(5 out of 7)	
Days in operation	Year around service	365
Total number of enplanements at YGD		1,825

The model is based on conservative demand projections, assuming that a total of 1,825 passengers will use a flight linking Goderich to YTZ on an annual basis. The load factor is below the standard 80% mark experienced on most regional flights. Table 36 details revenue projections for Year 1, 5 and 10.

Table 36 - Scheduled Charter Service Revenue Projections

Revenues Item	Year 1	5 Year Total	10 Year Total
Fuel sale mark-up	\$11,503	\$59,865	\$125,960
Airport parking fees	\$3,971	\$3,971	\$43,484
Airport landing fees	Waived with fuel purchase		
Airport Improvement fees	\$36,500	\$189,947	\$399,665
Total	\$51,974	\$253,783	\$569,109

*2% annual inflation has been applied to revenues

What can be taken away from the previous table is that the proposed air service will be a good revenue generator for Goderich, generating \$569,108 in revenue over 10 years. We did not add any new flights on Year 6-10 as it will be premature to speculate on future passenger traffic. Initial survey results would help refine this preliminary forecast and assess potential feasibility of the proposed air service. If Bruce Power's and regional community survey results are conclusive, a complete air service analysis should be performed to determine feasibility, load factors, flight schedule, airfare and preferred routes.

7.2.6 Haskap Culture

7.2.7 Concept Definition

Many airports lease out land for agricultural use. To generate even more revenue out of this activity, a growing number of airports have taken an approach that consists in sharing costs and benefits with farmers through lease rates defined in terms of a revenue percentage. As an example, Denver International Airport leases out approximately 16,000 acres of farmland on a per acre basis to local farmers. Under the lease program, farm revenue from the sale of crops (mainly wheat, sunflowers, millet, and corn) is divided, with one-third going to the airport and two-thirds to the farmers. Other models exist where airports act as the landlords and just lease land to developers.

The town of Goderich is familiar with crop-sharing arrangements. The Town has an agreement with a local farm for the use of 22 acres of agricultural land, where the Town receives 1/3 of the crop revenues grown on the leased land annually. The arrangements has generated \$6,585 in 2016 but in good years, when market prices are up and harvest good, revenue could reach \$16,000. Currently, wheat and beans are grown at YGD, which brings around \$254.47 per ton for wheat (See Table 36.).

Cash-crop are easy to grow, but do not generate high returns. In light of this observation, our team investigated the opportunity to grow other types of crops that would yield higher revenue while being suitable to the type of soil found at YGD. Results of the analysis show that a new berry fruit called haskap (also known as honeyberries) represents the best alternative to cash-crops both from a revenue and market standpoint. Therefore, is it recommended that the Town of Goderich considers establishing and harvesting haskap on airports lands through a crop-sharing agreement or as the sole owner.

Why Haskap?



Haskap¹² offers good production yields and interesting revenues to growers and the fruit is starting to be adopted by consumers. Haskap is now present in many farmer's markets and local shops in Canada and conversations held with retailers and processing companies concluded that large food groups may be interested in using Haskap in some of their products. Apart from the fact that demand for the product seems to be trending upward, higher prices for the crop is another factor that

led us to recommend developing Haskap at YGD. Table 37 compares prices for different crop types. As we can see from the numbers, Haskap generates better yields per acre of land harvested for prices than are on average much higher.

¹² Description: Haskaps are a small oval berry often compared to an elongated blueberry. The Haskap has a similar skin to the blueberry, but its flesh is an intense purple. The fruit has small seeds, almost imperceptible in the mouth. The juice of the berry is of a very dark burgundy color. Haskaps have a unique and complex taste, often attributed to blueberry, raspberry and blackcurrant.

Table 37 - Yields and Prices for Different Type of Crops

	Number of acres of land used for 1 ton of production	Average price per ton
Wheat (winter)	2.1	\$236.07
Wheat (spring)	1.5	\$254.47
Soybeans	1.23	\$503.80
Barley	1.85	\$218.50
Oat	2.07	\$251.52
Corn	4.38	\$232.10
Canola	1.17	\$547.00
Berries	1.33	\$4,500.00
Haskap	0.44	\$5,000.00

Sources: Agriculture and Agri-Food Canada; Ontario Ministry of Agriculture, Food and Rural Affairs. Haskap production yield and price have been based on a 2015 report commissioned by the CRAAQ (Cultivating Expertise Knowledge Centre)¹³.

Products	Prices (2017)
Whole Sales (to Freezing Plant)	\$6 per Kg
Pick your own (at the farm)	\$9 per Kg
Direct sale to artisan transformers (frozen haskap)	\$12 per Kg
Direct sale to restaurants, hotels and institutions	\$15 per Kg
Direct sale of fresh haskap to end consumers	\$20 per Kg

Suitability of the soil at YGD for Haskap Culture

Haskaps are able to grow on a range of soil types from clay-loam to sandy soils and in a range of pH from 5.5 - 8. A review of soil surveys data and land maps for the region of Goderich conducted by OMAFRA confirmed that the airport lands sit on Berrien soil series (sandy loam soil). Therefore, this soil type will be suitable for the culture of Haskap. OMAFRA's evaluation did not assess the condition of the land, and they strongly recommend that we perform a soil test to get a baseline reading of specific nutrients, pH level and organic matter percentage (OM) as historical land uses and vegetative cover will impact site specific levels.

¹³ The CRAAQ, a Quebec-based non-for-profit organization funded by the agro-food industry, has the mandate to communicate knowledge, create and disseminate reference tools and carry out networking activities in the agriculture and agro-food sectors.

Proposed Business Model

The municipality cannot legally be involved in a commercial enterprise. Therefore, it is necessary that the promoters put in place a legal structure that makes it possible to start and operate the company. Promoters could establish a non-profit organization (NPO). The NPO is a model that lends itself well to the project objectives since its income should not be distributed among its owners and shareholders, but rather serve, for example, the development/rehabilitation of key local infrastructures for economic development (especially the airport). In a general manner, the NPO also has tax advantages and is likely to be more eligible for certain funding programs than private companies.

Initially, the municipality would be responsible for creating the non-profit organization, composed of an independent board of directors. It will be necessary to have a level of independence between the municipality and the NPO in order to avoid potential cases of conflict of interest.

The NPO offers an interesting structure allowing greater latitude in the distribution of overpayments. In fact, when the non-profit organization's charter of regulations is created, it will be possible to precisely determine the allocation of overpayments. In a realistic scenario, a proportion of the overpayments will go, in order of priority, in the working capital of the organization to support the operations, but also to pay the debts of the company and to make investments if required. Ultimately, a portion of the overpayments will be transferred to an "airport fund" that will be used to meet the NPO's primary mission.

At the end of the fiscal year of the NPO, the board will be able to allocate a portion of the overpayments to the airport fund, which should be managed externally by the local economic development agency. The agency will then be tasked with evaluating the most relevant rehabilitation projects according to airport recommendations and priorities.

Board of directors

The NPO should have a board of directors varying between five (5) and seven (7) members. These directors should be chosen primarily based on their skills and knowledge, but also on their motivation for the project. Since the heart of the operations will be agriculture, at least one member of the Board should be from the farming community to obtain technical expertise. It is important to remember that in order to avoid any conflict of interest, no employee of the municipality should be directly involved in the governance of the organization. There may be one (1) or two (2) observer seats on the board.

7.2.7.1 Development Site

Inventory of YGD lands shows that additional parcels could be developed for haskap culture. Figure 14 depicts the different parcels, including the ones being currently cultivated at YGD. Total developable surface was estimated at 76.4 acres. Changing the type of crop for the land that is currently cultivated will not require any zoning modification. Although, enlarging the cultivation area to other airport land parcels will require a zoning amendment. Obstacle limitation surfaces with the three (3) runways have been considered and are compliant.

Figure 14 - Total Available Acreage for Haskap Development (76.4 acres)



Land parcels are either zoned Airport Lands Related Uses (AL1) or Airport Lands Related Uses (AL2). Agricultural uses are not permitted under those two (2) zones. In fact, the existing agriculture area meets the requirements of a 'non-conforming' use as set out in the Township of Ashfield-Colborne-Wawanosh Zoning By-law (32-2008), this Agriculture use can continue to occur as a non-conforming use. The following Zoning By-law rules explains applicable the limitations.

Non-Conforming Use (3.24.1) - The provisions of this By-law shall not apply to prevent the use of any lot, building or structure for any purpose prohibited by this By-law if such lot, building or

structure was lawfully established and used for such purpose on the date of passing of this By-law, and provided that it continues to be used for that purpose.

Enlargement, Extension or Replacement of Non-Conforming Uses (3.24.5) - The extension, enlargement or replacement of a non-conforming use, or building or structure for a non-conforming use, will require an amendment to the Zoning By-law.

7.2.7.2 Proposed Business Model and Partners

For our financial projections, two (2) ownership scenarios have been evaluated. The first model suggests that the Town of Goderich be the sole owner of the Haskap farm, assuming all of the expenditures and keeping all of the revenues from the sale of the crops.

The second model is similar to the crop-sharing agreement the Town has with a local farmer for the use of 22-acre of airport lands. Under this arrangement, the Town gets a portion of the profit realized from selling the crop grown on the airport land annually. Operational Expenses (OPEX) such as equipment maintenance and repair, tooling and suppliers are deducted from revenues and profit calculation.

The actual crop-sharing agreement does not include any provisions for capital expenses (CAPEX). The farmer has the equipment and infrastructure to run the 22-acre operation. For the haskap concept, start-up expenses will have to be incurred by the partners to pay for equipment, infrastructure and buildings. In the proposed model, 50% of those expenses are considered to be assumed by the Town of Goderich. In exchange, the Town keeps 50% of all revenues from the sales of the crops.

Partner for this concept could be the actual farmer who has the crop-sharing agreement with the Town of Goderich. If the farmer does not have the expertise to grow haskap or the desire to expand production from the current 22-acre to 75-acre production, the Town could work with the local farmer associations to identify potential partners. Moreover, should the airport decide to move forward with haskap culture, we recommend reaching out to the Ontario Haskap Association to work with them to identify potential partners for this project.

7.2.7.3 Capital Cost

For the Town of Goderich, developing the identified land parcels for Haskap culture will require investments in the range of \$1.4 million under scenario A (100% ownership) and approximately \$700,000 for the joint-venture model (50% ownership).

Table 38 - Estimated capital requirements for the development of a 76-acre haskap farm

Type of Investments Required	<u>Scenario A</u>	<u>Scenario B</u>
	<u>100% ownership</u>	<u>50% ownership</u>
Equipment – irrigation systems, anti-bird nets, tooling and supplies	\$692,116	\$346,058
Buildings – dry warehousing	\$79,676	\$39,838
Harvesting machinery/ Tractors, mowers, trimmers, sprayers	\$599,006	\$299,503
Total	\$1,370,798	\$685,399

Equipment needs represent the bulk of the investment. Capital expenditures are assumed to be financed through a 25-year loan at 5% interest rate for an annual loan payment of \$97,261 (\$48,630 for the joint-venture model). In addition to those investments, a total of \$380,740 over three years will be needed for site preparation and the plantation phases. The table below breaks down the additional expenses to be incurred during the first years for each of the ownership scenarios.

Table 39 – Costs of site preparation, purchases of plants and plantation for both scenarios

Site preparation, purchases of plants, plantation	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>3-Year Total</u>
Scenario A - 100% Ownership	\$342,170	\$21,813	\$16,758	\$380,741
Scenario B - 50% Ownership	\$171,085	\$10,907	\$8,379	\$190,371

Total investment required to develop the Haskap farm is estimated at \$1,751,539 for Scenario A and \$875,769 for the joint-venture model.

7.2.7.4 Revenue Projection and Profitability

Costing and revenue assumptions were drawn from a study titled “Mechanical harvesting of the Haskap, operating budget”, a 2015 report commissioned by the CRAAQ (Cultivating Expertise Knowledge Centre)¹⁴.

¹⁴ The CRAAQ, a Quebec-based non-for-profit organization funded by the agro-food industry, has the mandate to communicate knowledge, create and disseminate reference tools and carry out networking activities in the agriculture and agro-food sectors.

The CRAAQ report evaluates the equipment, material, and other expenses required for the operation of a five (5) hectares (12.4 acres) parcel. Based on averages production yield (2.75kg/plant) and prices for Haskap plants (\$5/kg), CRAAQ study evaluates profitability of a 5-hectare Haskap production. The 5-hectare model developed by the CRAAQ has been used to determine the potential financial returns for YGD 76-acre farm concept. Revenues and expenses have been pro-rated for the size of cultivated surface at YGD.

Table 40 provides the revenues and expenses breakdown for each of the scenarios. These projections should be considered as high level profit estimates and used for a general budgetary purpose only. If the Town of Goderich decides to develop Haskap at YDG, a complete market analysis shall be performed to validate costing and revenues items.

Table 40 – 20-Year High Level Financial Projections for Haskap Culture at YGD

Revenues and Expenses	20-Year Total Scenario A 100% owned	20-Year Total Scenario B 50% owned
Revenues (Town's expected revenue per scenario)		
Production Value – Sale of haskap	\$16,795,650	\$8,397,825
Expenses (Town's expected contribution for each scenario)		
Capital Expenditures (loan payments)	\$1,945,229	\$972,615
Start-up costs - Site preparation, plantation	\$380,740	\$190,370
Operating costs	\$7,140,693	\$3,570,347
Depreciation of assets	\$1,360,703	\$680,352
Estimated Gross Profit for Period	\$5,968,285	\$2,984,142

Cultivated land will start yielding revenue on Year 4 only, as Year 1 is dedicated to planting and site preparation, and years 2 and 3 to sprout years. Under scenario B, where the Town gets 1/2 of the receipts, it is estimated that Haskap will generate \$2.98 million in profit over a twenty-year period. Despite that no revenue will be generated during the first three (3) years due to sprouting and plantation phases, the model generates strong returns. The sole ownership model generates twice the amount of profits than the joint-venture model for a total of \$5.97 million.

8. Development Plan

All proposed concepts are implemented on Year 1. Otherwise indicated, all of the buildings and infrastructure work takes place on Year 1, with Year 2 being the first year where revenues start to be generated. The objective is to simplify the financial modeling and provide the County of Huron with a realistic and easy to understand financial plan for each airport. Table 41 summarizes the development timeline for the proposed concepts.

Table 41 - Proposed Timeline for YGD and PR7 Development Concepts

Airport	Development Concepts	Timeline
Richard W. LeVan Airport	Sale of Agricultural Lands	Year 1 – Land for sale Year 2 – First interest revenues
	GA Aviation Hangars (like Cessna 150, 172, Diamond DA 20, Cirrus 22)	Year 1 – Construction of three (3) 2,500 sq.ft. hangar units (phase 1). First revenues budgeted on Year 2. Year 4 – Construction of four (4) 1,500 sq.ft. hangar units (phase 2). First revenues budgeted on Year 5.
	Growing RC Jets Rally	No specific timeline defined. To be determined by the Municipality of North Huron.
	Fly-In Packages to GA Pilots	Year 1 – Launch of the marketing and promotional activities. First revenues budgeted on Year 1.
Goderich Municipal Airport	GA Aviation Hangars	Year 1 – Construction of three (4) 1,500 sq.ft. hangar units (phase 1). First revenues budgeted on Year 2. Year 4 – Construction of four (4) 1,500 sq.ft. hangar units (phase 2). First revenues budgeted on Year 5.
	Multiplex Residential	Two (2) multiplex units built every year for a total of 20 units on Year 10. Year 2 – 1 st revenues from the first two units.
	Schedule Passenger Service	Year 1 – Launch of the air service. First revenues budgeted on Year 1.

	Fly-In Packages to GA Pilots	Year 1 – Launch of the marketing and promotional activities. First revenues budgeted on Year 1.
	Haskap Culture	Year 1 – plantation Year 2 and 3 – Sprouting years Year 4 – First harvests/revenues
	Aviation Commercial and Industrial	Year 1 – Market former Sky Harbour Facility and other building leasing opportunities

9. Capital Improvement Plan

The capital improvement plan comprises the infrastructure cost to develop the different concepts as well as the needed capital to rehabilitate the existing airfield infrastructure and terminal buildings. Construction of new buildings has not been included in the cost breakdown. Those costs will be borne by the developer and/or future building owners.

9.1 Richard W. LeVan Airport (PR7)

CPR7 airfield infrastructure is in excellent condition and there is no major rehabilitation cost anticipated in the next 10 years based on the assessment performed by the engineering firm TetraTech. On the other hand, when analyzing total rehabilitation cost at the end of life of the infrastructure, we show in the 20-year period, the required capital costs:

(see next page)

Table 42 - PR7 20-Year Capital Requirements

Items	1-5 Years	6-10 Years	11-20 Years
Airfield Infrastructure			
Runway rehabilitation	-	-	\$2,672,000
Taxiway and apron rehabilitation	-	-	\$434,000
Fuel tanks (replacement based on condition or changing regulation)	-	-	\$75,000
Camera System	\$5,000	-	-
Cardlock System	\$18,000	-	-
Total airfield rehabilitation costs	\$23,000	-	\$3,181,000
Groundside Infrastructure			
Access Road	-	\$121,000	-
Airport-Owned Buildings			
New air conditioner	-	-	\$5,000
New furnace to replace electric heat	-	\$25,000	-
Terminal Building Roof (\$25,000)	-	-	\$25,000
Total building costs	-	\$25,000	\$30,000
Infrastructure upgrades for development concepts			
Taxiway development (hangar concept)	\$156,000	-	-
Helipad development	\$88,000	-	-
Septic System (hangar concept)	\$150,000	-	-
Wells (4) (hangar concept)	\$60,000	-	-
Total development concept costs	\$454,000	-	-
Total Costs	\$477,000	\$146,000	\$3,211,000

The proposed hangar development concept and airfield enhancements (cardlock and cameras) represent the bulk of the costs for the first five years and total \$477,000. Between 6 to 10 years, the main cost will be the rehabilitation of the access road (\$121,000). Finally, more than 80% of the capital requirements will be needed between 11 to 20 years, especially for the runway rehabilitation.

The following table presents the same data as table 43, but with the detailed construction, engineering and contingency costs:

Table 43 - PR7 20-Year Capital Requirements (Segmented)

Items	Construction	Engineering (7% to 15%)	Contingency (20%)	Total Cost
Airfield Infrastructure				
Runway rehabilitation	\$2 104 000	\$147 000	\$421 000	\$2 672 000
Taxiway and apron rehabilitation	\$342 000	\$24 000	\$68 000	\$434 000
Fuel tanks	\$75 000	-	-	\$75 000
Cardlock System	\$18,000	-	-	\$18,000
Camera System	\$5,000	-	-	\$5,000
Groundside Infrastructure				
Access Road	\$95 000	\$7 000	\$19 000	\$121 000
Airport-Owned Buildings				
New air conditioner	\$5 000	-	-	\$5 000
New furnace to replace electric heat	\$25 000	-	-	\$25 000
Terminal Building Roof	\$25 000	-	-	\$25 000
Infrastructure upgrade for development concepts				
Taxiway development (hangar concept)	\$116 000	\$17 000	\$23 000	\$156 000
Helipad development	\$65 000	\$10 000	\$13 000	\$88 000
Septic System (hangar concept)	\$150 000	-	-	\$150 000
Wells (4) (hangar concept)	\$60 000	-	-	\$60 000
Total	\$3,085,000	\$205,000	\$544,000	\$3,834,000

9.2 Goderich Municipal Airport (YGD)

Airport infrastructure in YGD will require significant investments in the coming years to rehabilitate Runway 14-32, taxiway, access road and old apron. In total, when adding the cost for edge lighting, the total reaches \$6.2 million. On the long term, an additional \$2.8 million will be needed for the newest apron and Runway 10-28 rehabilitation. Apart from airfield infrastructure costs, smaller amounts will be needed to upgrade the terminal windows, fix the roof of the terminal building and purchase a new furnace.

Table 44 details the cost breakdown per type of infrastructure and building assets.

Table 44 - YGD 10-Year Capital Requirements

Cost Items	1-5 Years	6-10 Years
Airfield Infrastructure		
Runway 14-32 Rehabilitation – includes threshold and edge lighting, including APAPI and subdrains.	\$4,660,000	-
Runway 10-28 Rehabilitation – includes threshold and edge lighting, including APAPI and subdrains.	-	\$2,310,000
Taxiway A Rehabilitation – includes edge lighting	\$620,000	-
Apron rehabilitation (new)	-	\$482,000
Apron rehabilitation (old)	\$565,000	-
Cardlock System	\$18,000	
Total airfield rehabilitation costs	\$5,863,000	\$2,792,000
Groundside Infrastructures		
Access Road	\$330,000	-
Airport-owned buildings		
Terminal building – window replacement	\$12,000	-
Maintenance building – roof replacement	\$3,000	-
Maintenance building – new gas furnace	-	\$7,000
Total building costs	\$15,000	\$7,000
Infrastructure upgrades for development concepts		
All infrastructure costs borne by the developer	-	-
Total Costs	\$6,208,000	\$2,799,000

10. 20-Year Financial Projections

This section consolidates revenues and expenses for all proposed concepts and presents financial projections over a 20-year period for each airport. Results of the analysis will help to identify main sources of revenue and cost. This exercise will also be useful in evaluating how the new generated revenues contribute to the airports' financial sustainability.

10.1 Richard W. LeVan Airport (PR7)

Table 45 provides the 20-year financial projections breakdown per development concept. As we can see from the numbers, revenues for the period will principally come from the return generated from investing the land sale money into an equity fund, and 42% of all revenues will originate from that source. Fuel sales ranks second with 27% of all revenues. The remaining 30/31% is separated between property taxes (5%), land leases (2%), aircraft parking (1%), cost recovery for taxiway construction and utilities (7%) and lastly, existing airport revenues which account for 15%.

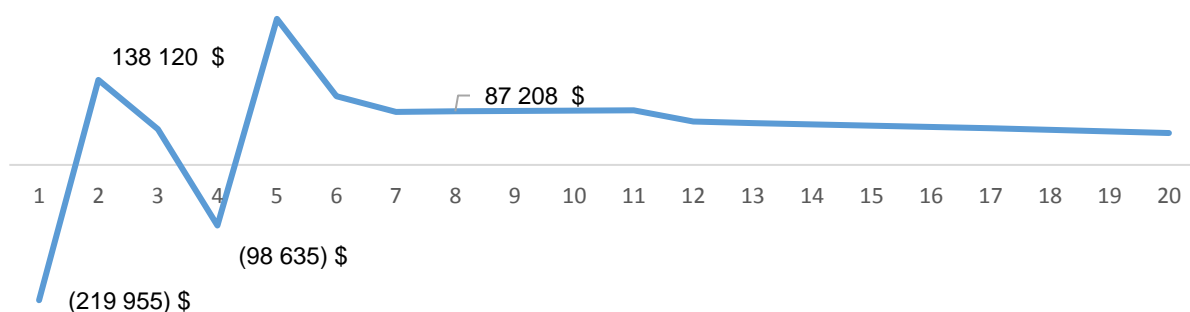
Table 45 - 20-Year Financial Projections for PR7 Concepts

WINGHAM DEVELOPMENT PLAN - 20-YEAR FINANCIAL PROJECTIONS		
REVENUES		
	20-YEAR TOTAL	% of total revenues
Land Sale - Interest Income	\$2 151 015	42,23%
Fly In Packages for GA Pilots		
Aircraft parking	\$46 637	0,92%
Fuel sales	\$312 077	6,13%
Aviation Hangars		
Property taxes	\$257 185	5,05%
Land lease	\$113 631	2,23%
Fuel sales	\$1 091 117	21,42%
Existing Revenues (without ag land lease)	\$751 500	14,76%
Septic system and water wells - cost recovery	\$210 000	4,12%
Taxiway construction - cost recovery	\$160 000	3,14%
Total Revenues	\$5 093 162	
EXPENSES		
Fly-In Packages for GA Pilots - Promotion and Marketing Activities	(\$67 928)	
Aviation Hangars / Fly-In Packages - Cost of fuel	(\$1 136 587)	
Increased GA and Commercial Aviation Traffic - Fuel tank maintenance	(\$31 050)	
Aviation Hangars (commercial) - Septic system & water wells	(\$210 000)	
Aviation Hangars (phase 2) - Taxiway construction	(\$156 000)	
Total Airport Budget Expenditures (2% annual inflation applied)	(\$2 270 146)	
TOTAL ESTIMATED SURPLUS/(LOSS)	\$1 377 452	
Capital requirements - Rehabilitation of the airport infrastructure	(\$3 441 000)	
Required funds to finance airport upgrades and rehabilitation (buildings and airfield)	(\$2 063 548)	

New revenues will allow the airport to generate a surplus in the range of \$1.2 million for the period. With the exception of Year 1 and Year 4 all years are in the black.

The revenues generated from the land leasing arrangement with a local farmer (\$59,800) and others Year 1 and 4 revenues will not be sufficient to cover for all the airport operating expenses and the capital spending to pay for the construction of the septic systems and water wells and regular expenses. The Township of North Huron will start recovering its investments on Year 2 after the hangar construction phase. As for Year 4, the Township will have to incur a one-time charge of \$156,000 to pay for the taxiway construction. Township will start recovering its investment the following Year. This explains the \$219,955 and \$98,635 losses on Year 1 and Year 4. Figure 15 details the annual gross profits generated from the recommended concepts at PR7.

Figure 15 - 20-Year Annual Surplus Breakdown for PR7 Concepts



The implementation of the development concepts will allow the airport to become financially sustainable. Given that the airport infrastructure is in good to excellent condition with no major infrastructure-related costs anticipated within the next 10 years (See section 9.1.), the surpluses generated could be used for new development projects or saved for long-term rehabilitation work estimated at \$3.4 million. This amount will be required to repair and rehabilitate the airport airfield, access road and terminal building. In table 44, we assumed that cumulative surpluses would be allocated to finance airport infrastructure spending, reducing total capital requirements from \$3.4 million to \$2.2 million. In section 14.1, we proposed a series of potential options on how the Township of North Huron could make the best use of the new revenues and surpluses to finance the projected capital expenditures

10.2 Goderich Municipal Airport (YGD)

The development plan allows for a greater diversification of revenues and better utilization of the airport lands. The proposed plan suggests the development of five (5) concepts, two (2) of which are non-aviation related. Table 46 shows the 20-Year revenue and expense projections for each of the proposed concepts at YGD.

Table 46 - 20-Year Financial Projections for YGD Concepts

REVENUES		
	20-YEAR TOTAL	% of total revenues
Interest Income on Land Sale Revenue	215 531 \$	2%
Property Taxes		
Residential Development (Southwest Area)	660 399 \$	6%
GA Aviation Hangars		
Land lease on (8) constructed hangars	69 535 \$	1%
Property taxes on (8) constructed hangars	97 895 \$	1%
Fuel sales (net revenue)	190 385 \$	2%
Passenger Air Service		
Fuel sales (net revenue)	279 505 \$	3%
Aircraft Parking Fees	96 490 \$	1%
Aircraft Landing Fees		
Airport Improvement fees (per enplanement)	886 854 \$	8%
Fly-In Packages for GA Pilots		
Aircraft Parking	74 936 \$	1%
Fuel sales (net revenue)	128 732 \$	1%
Haskap Culture		
Sales of Harvests (1/2 of revenues)	8 397 825 \$	76%
Total Estimated Revenues	11 098 107 \$	
EXPENSES		
Fly-In-Packages for GA Pilots - Promotion and Marketing	(67 928) \$	
Haskap Farm - Operational and Capital Expenditures (1/2 of expenses)	(5 413 682) \$	
Total Airport Budget Deficit (2% annual inflation applied)	(6 118 175) \$	
Aviation hangars - fuel tank maintenance	(15 504) \$	
TOTAL ESTIMATED SURPLUS/(LOSS)	(517 182) \$	
Projected Capital Expenditures (CAPEX) - Rehabilitation of the airport infrastructure	(9 007 000) \$	
Required funds to finance airport upgrades and rehabilitation (buildings and air	(9 524 182) \$	

Proposed multiplex units at the corner of Lake Rd and Airport Rd will provide stable revenue generation for the airport, totalling \$660,399 in revenue for the period. The development of 76.4 acres of land for haskap culture is also expected to contribute to a fair portion of total revenues. For the consolidated financials, the scenario where the Town keeps ½ of the harvest sales and contributes to ½ of operational and capital expenses was retained for the analysis. This model generates \$8.4 million in revenue for \$5.4 million in expenses for an estimated gross profit of \$3 million over 20 years. The model where the Town is the sole owner of the haskap farm will generate twice the profit of the joint-venture scenario.

What can be taken away from the 20-year financial projections is that the proposed development plan will allow the Town to finance a sizeable share of the airport deficit reducing

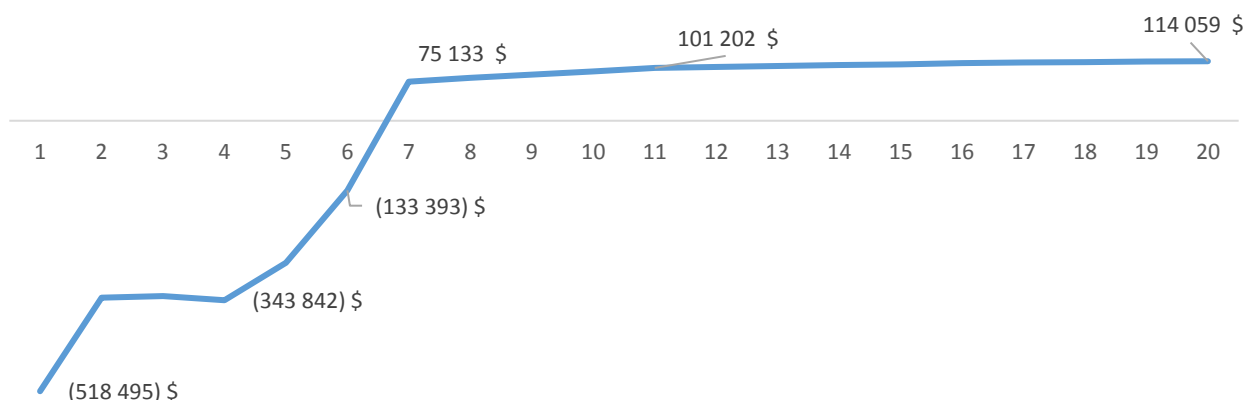
the anticipated 20-year cumulative loss from \$6.1 million to \$517,000. Based on the condition assessment of the airport buildings and airfield, the cost to rehabilitate the infrastructure was estimated at \$8.7 million. When adding those expenditures to the 20-years projections, the total loss for the period amounts \$9.2 million.

The haskap concept is the largest contributor to the revenues, accounting for 76% of total receipts. Property taxes levied on the new buildings (multiplex units, aviation hangars) account for 7% of all revenues, followed by the passenger air service with 11% of all revenues generated over the period. From a financial standpoint, developing the haskap farm is advantageous for the Town of Goderich as the model allows the Town to keep all of the revenues (50%) generated by the sales of harvests.

As opposed to other concepts, haskap culture does not generate part of its revenue from raising property taxes that will go to the Township of Ashfield-Colborne-Wawanosh. The haskap model offers the possibility to the Town of Goderich to administer and use the generated surpluses without the need to make any financial arrangements with the Township. On the negative side, the haskap concept requires important investments in the first years to start the production. The required investments and the fact that haskap needs three (3) years before producing fruits will impact profitability of the model in the first years. Figure 16 shows the 20-year consolidated surplus/loss on an annual basis.

Note: we have not included the potential grant coming from the ACAP program where the Airport could be eligible to up to 100% of funding for the rehabilitation of the runways, taxiways and apron.

Figure 16 - 20-Year Annual Surplus/Loss Breakdown for YGD Concepts



The consolidated model starts generating surpluses on Year 7, which corresponds to the time that haskap plants would have reached full production yield. From Year 7 and onward, the model is profitable with annual gross profit ranging from \$75,133 in Year 7 up to an estimated \$114,059 on Year 20.

Despite the needed investment in the first years, the addition of haskap culture to the proposed development concepts will allow the airport to be almost break-even on Year 6 (\$78,581). The financial analysis shows the bulk of revenues coming from non-taxable sources. Only 7% of revenues are tied to property taxes levied on new property. While the proposed development concepts allows the airport to become more sustainable, the new generated revenues will not be sufficient to pay for the rehabilitation of the airport infrastructure which should occur within the next ten years based on engineering assessment.

11. Zoning By-Laws Amendment

This section addresses the land designation and zoning amendments required to develop the proposed concepts.

11.1 Richard W. LeVan Airport (PR7)

According to Morris Tunrberry Zoning By-Laws, three (3) zones are defined for the airport property: Airport Lands (AL), Restricted Agriculture (AG2-2) and Natural Environment (NE2). Permitted uses for AL zone comprise all activities related to airport and aeronautic uses, which include all types of activities and buildings proposed in our aviation concepts.

For the parcels with AG2-2 zone, the recommendation is to sell 225.79 acres of the 234.49 acres of land with the AG2-2 designation. No zoning amendment is required since the land use will not change. Building and structures related to agricultural uses are permitted under AG2-2 zone. As for the 8.7 acres parcel reserved for future development, we suggest keeping the AG2-2 zone until a new development purpose has been identified.

11.2 Goderich Municipal Airport (YGD)

All of the development sites for the proposed concepts sit either on AL1 or AL2 zones. AL1 is strictly reserved for buildings and structures needed for the airport operation. Permitted uses are limited to runways, taxiways, navigational equipment and the related accessory uses. AL2 zone allows for airport-related commercial, industrial and service uses to be established at the airport. In short, all aviation-related activities are permitted under this zoning designation.

As for the non-aviation related concepts only the multiplex residential Development will require a zoning change.

Multiplex Residential Development

In order to accommodate the 5-acre housing development at the corner of Lake Rd and Airport Rd, zoning should be changed to Lakeshore Residential (LR2). LR2 allows for year-round residential use. Maximum building height (9m) permitted under LR2 zone is sufficient for the construction of the multiplex units.

12. Funding Strategies

12.1 Vision

Over and above the revenues generated by the development of the various concepts, and the support airports may at time receive from provincial and federal funding programs, our team looked at the overall taxes generated by the airports and associated alternate funding mechanisms.

With both airports located in an adjacent Municipality, all taxes levied on buildings located on airport property go to these Municipalities, which are not financially supporting the maintenance, operations and development of the airport.

Considering that an airport is a public transportation infrastructure, that it serves a larger community than solely the Town of Goderich and/or the Township of North Huron, we recommend establishing a tax-sharing mechanism where a portion of the new taxes raised would support airports funding and operations.

Proposed funding principles:

- 1- As the airport is a public infrastructure, it should be funded by various tiers of Municipal government (Town, Township) and the County;
- 2- Airports require large capital investment and a capital management plan (Reserve Fund) supporting long-term runway and infrastructure rehabilitation costs;
- 3- Developing and leveraging land use for revenue generation can help general aviation airports become more sustainable;
- 4- Reinvesting taxes into the airport to support infrastructure rehabilitation and development can have a multiplier effect;
- 5- Proposed tax-sharing model will be applied to new construction only and not to existing buildings;
- 6- Airports are part of the economic lifeline of a community, a growth asset and should be considered as an economic development tool that benefits the entire community and therefore, be jointly funded by the various tiers of municipal government.

12.2 Airport Maintenance and Rehabilitation Fund (AMRF)

We recommend the creation of an Airport Maintenance and Rehabilitation Fund (AMRF) for each airport. The purpose of this fund is meeting long-term funding requirements for airport infrastructure maintenance and rehabilitation needs. The AMRF is based on the capture of portions of future property taxes. The AMRF would apply exclusively to taxes levied on new buildings generated by the attraction of new tenants and investments to the airport.

The creation of this fund will require the airport owners to negotiate an agreement with their host Township. The proposed agreement could be based on the capture by an AMRF of up to 100% of new taxes generated on airport property. The objective is to build up the capital required to rehabilitate the infrastructure when it reaches its end of life. The AMRF would mandatorily assign all of its funds to the maintenance and rehabilitation of each airport infrastructure.

This model is similar to Tax Increment Financing (TIF). If a Community Improvement Plan (CIP) is in place, a TIF can be activated. TIF are not tax assistance, but rather a grant. CIP's are used for revitalizations. They are not designed to support greenfield developments. They are designed for the redevelopment or repurposing of existing lands.

Options

Option 1: County Financial Involvement

The County could be asked to cover the annual shortfall that may occur in the early years of the AMRF or match the annual contribution made by the owner and the Township to the AMRF. The County contribution could be a fix or variable amount.

Option 2: Recovering In-excess Taxation Funds

If taxation and airport revenues were to provide more than the required funding to meet the annual funding requirement of the AMRF, any tax revenue surpluses could be returned back to the taxing Municipalities.

Option 3: Scaled Tax Capture

Captured taxes could also be scalable (increased/decreased) as years progress.

Option 4: Leverage excess fund for Economic Development purposes

Part of the fund could also serve to develop an "Economic Development Fund" focused on attracting investors and businesses to the airports. The fund could help to finance an incentive program, supporting marketing efforts and the preparation of marketing material.

13. Marketing Recommendations

The marketing recommendations present general marketing strategies that could be put in place to foster the airports development and specific marketing tools that would help developing the Fly'In Packages of both airports.

13.1 Website

As the general public has become sophisticated Internet users, stand-alone content-driven websites are increasingly replacing brochures. Nowadays, airport websites are an effective way to keep tenants, prospects, visitors and other users of the airport informed and aware of current services and activities. As a consequence, we recommend updating the current website with the new services and value propositions, in accordance with the basic guidelines listed below. Also, depending on the available budget, both airports should consider the creation of a stand-alone website with more content and information on the airport.

Key considerations when designing a website:

- Establish reciprocal links to/from other related websites of interest to your users (Tourism, commerce, economic development, airline, etc.).
- Optimize search engine visibility to increase the airport's position and presence on the Internet.
- Consider video streaming to advertise the airport and make the website visually exciting.
- Use e-newsletters, e-blasts, and rich site summary (RSS) feed to communicate with.
- Add a weather tab
- Add Fly-in packages

Newsletters

Newsletters are a good way to keep in touch and maintain relationships with current users. Although airports can request contact lists from other civic organizations, newsletters make it rather hard to reach potential prospects who are not already interested in the airport. The newsletters can be used to advertise exclusive offers, new services made available, highlight the community's events in line with users' interests and simply help remain "on top of mind". Distribution list should be built through the website link and emails directly collected at the airport. Typically though, to make things right, the airport would need to invite individuals to receive the newsletter via an email and ask for a return email with a request to "subscribe" or "unsubscribe." Free websites like MailChimp are convenient and user-friendly tools that can help create and manage newsletters. Additional considerations are listed below for the airports to stay in touch with their tenants and GA pilots, and advertise development opportunities to investors.

Key considerations for newsletters:

- Comply with Canada's Anti-Spam Law;
- Four (4) newsletters per year (one per quarter) seems like a reasonable frequency;
- For smaller GA airports, newsletters can also be used as weather alerts to inform pilots about upcoming flying conditions;
- Creation of the distribution list implies increased efforts to collect users' information at their arrival. It is also a great opportunity to build a solid, exhaustive computerized registration log keeping track of airport activity; and
- Publish newsletters on the website and include a way to subscribe.

Leaflets and Brochures

Compared to e-brochures, printed documentation has significant advantages in terms of retention factor and portability. In fact, printed brochures can sit on a desk for a while, or may be read while riding a commuter train to work or even when flying. As a result, they generally have a longer-lasting impact on audience than online versions and thus still represent an essential tool. We recommend developing separate brochures for each target clientele.

Key considerations for brochures:

- Ask for testimonials from satisfied customers or tenants and consider advertising them in the brochure, and of course, communicate key brand messages;
- Make sure pictures and templates look crisp and professional; and
- Don't be afraid to think outside the box: think about different ways the airport's print materials might grab readers' attention. Humor, catchy phrases and local celebrities also often work well.

timeline, a marketing strategy was developed for each development concept that requires a specific marketing approach. The marketing plan identifies key markets and clienteles, outlines key messages to promote to the targeted audience, recommends lists of events and provides additional information as to which marketing material will best convey the intended message.

13.2 Marketing Strategy per Concept

13.2.1 General Aviation Expansion

The concepts that require specific marketing strategies are the establishment of Fly-in Packages and the Aviation Hangar Construction and Leasing Opportunities. Both of these concepts aim to expand GA activities and applied to both Goderich and Wingham airports.

Targeted markets and clientele

1. Fly-in Packages

Packages should meet the needs of GA tourists increasingly looking for turnkey solutions, convenience and simplified booking process. Marketing efforts should be undertaken to leverage tourism activities in both regions as an attempt to attract recreational pilots (main targeted clientele) from Ontario and the neighboring U.S. states, as well as a segment of Quebec pilots.

In order to estimate the potential number of pilots that may be attracted by the fly-in packages, we can base our estimates on a range radius that small pleasure aircraft owners are normally ready to travel, which was set at 500 km for our estimates. The following table presents the potential number of aircraft located in each targeted markets:

Table 47 - Number of private aircraft in surrounding provinces and states

Provinces and States	Total number of private aircrafts
Ontario	7,998
Quebec	6,133
Michigan	7,939
Ohio	8,311
Pennsylvania	6,854
New York	7,373
TOTAL : 44,588	

It is important to note that only a proportion of private aircraft would be in range. For example, with our proposed 500 km range, the potential attraction radius covers approximately 60% of the Pennsylvania, 50% of New York and 75% of Ohio. Only the western regions of Quebec (Montreal for example) would be in range.

2. Aviation Hangar Construction and Leasing Opportunities

Compared to the General Aviation Fly-in packages, the targeted market for the hangars should be focused on the province of Ontario, since outsiders will be less interested in leasing hangar space far from their place of residence. In order to attract additional General Aviation pilots who wish to store their aircraft at the airport, both airports should focus their marketing efforts in Ontario. Also, more personalised direct contacts can be prioritized to reach pilots living in the County of Huron as well as surrounding counties. Cold calls or interest surveys are generally the best communication channel to use. We also suggest promoting leasing opportunities

through the airports' websites and social Media. The airport staff should also visit the pilot clubs in order to assess their current and future interest in hangar leasing.

The second target for the hangar construction and leasing opportunities is the aviation service companies. These companies can generate good amount of activities at the airport and have need for larger hangars than GA pilots.

Marketing Material

The following table explains the marketing material that the airport should develop and the targeted communication channels to promote the message for both the Fly-in packages and the aircraft hangars.

Table 48 - Proposed marketing material for the Fly-in Packages and the Hangars Development

Marketing activities and material	Targeted audiences
Update the airport website	The new updated website will directly target the aircraft owners, pilots and aviation enthusiasts that have an interest in the region and its numerous activities.
Create a Fly-in package brochure describing the value proposition. The brochure should be available in paper and electronic format.	<p>The brochure should be distributed through the many stakeholders involved in the concept in order to reach the final customer:</p> <ul style="list-style-type: none"> • GA associations; • GA events that the airport will participate • Both airports contacts database through emails; • Tourism associations (distribute through newsletter); • Partners involved in the Fly-in packages – Restaurants, Equipment rental, Accommodation (paper format, newsletters, emails).
Create a separate brochure for the hangar development opportunity.	<p>The brochure should be distributed through the following channels:</p> <ul style="list-style-type: none"> • Aviation services <ul style="list-style-type: none"> ○ Industry Association (i.e. newsletters); ○ Industry events; ○ Email to local company owners. • GA Pilots:

	<ul style="list-style-type: none"> ○ GA associations / clubs; ○ GA events.
Participation to GA events	Pilots gathering and air shows are great places to meet GA pilots. During those events, both airports should promote the value proposition of their fly-in packages and the hangar opportunities through direct discussions and the distribution of brochures.
Advertising placement in specialized magazines (higher cost)	<p>The following magazines/publications should be considered by the airport for the promotion of the Fly-in package content:</p> <ul style="list-style-type: none"> • Canadian Aviator; • The COPA Flight newsletters; • Wings Magazine; • Skies Magazine.
Create an Interest Assessment Survey asking questions on the requirements and needs for GA Hangars.	A short survey may be send to Ontario's pilot associations in order to distribute the survey in their network. The COPA Chapters and regional Pilot Clubs are examples of organizations that would be willing to promote this initiative.

Reaching the Clientele – List of Events and Trade Shows

We suggest that both airports participate in events in the targeted markets. Below is a list of some identified events in Ontario and neighboring U.S. States:

Table 49 - List of potential GA events

GA Events	Location	Date	Description
The Canadian International Air Show 2017	Toronto, ON, Canada	September 1-2, 2018	The Canadian International Air Show (CIAS) is Canada's largest and longest-running aviation display; and one of the largest air shows in North America. Over its six-decade-plus history, the CIAS has been proud to feature many air shows 'firsts' including appearances by the Concorde, F-22 Raptor, the V-22 Osprey and more. The event gathers aviation enthusiasts and important aviation sector companies.
Great Lakes	St.	TBD	This event promotes passion, interest and education in

International Airshow	Thomas, ON, Canada		aviation. Despite the fact that this event is foremost of a recreational nature, it is a great place to meet GA enthusiasts and propose the numerous attractions and beauty of the County of Huron. The “Air Experience Pavilion” could offer the opportunity to present the Fly-in Packages and other local attractions around Richard W. LeVan Airport.
Quinte International Air Show	CFB Trenton - Quinte West, ON, Canada	TBD	World-class air show that highlights the men and women of the Canadian Armed Forces while showcasing the natural beauty of the Bay of Quinte Region. The largest base in the Royal Canadian Air Force (RCAF), Trenton is the home of Air Mobility as well as the Canadian Armed Forces Parachute Team, the SkyHawks.
EAA Air Venture Oshkosh	Oshkosh, WI	July 23-29, 2018	The EAA Air Venture is one of the largest Air shows in the world, regrouping more than 550,000 aviation enthusiasts from more than 80 countries. The event offers numerous opportunities to promote GA opportunities and trip packages through exhibition.
Air show London 2017	London, ON, Canada	TBD (September 22-24 for the 2017 edition)	Air show London - a new not-for-profit venture and unique collaboration of business, education and public sector leaders, attracts 100 pilots, 50 planes and several high-profile aviation acts – including the Canadian Forces Snowbirds and CF18 Demonstration Team – on the show grounds at the London International Airport for its air power demonstration event.

Aside from these large events, we suggest that both airports keep track of pilot gatherings. These types of events are smaller, but contain almost exclusively GA pilots and their families. Airport personnel should keep track of events published on the COPA website and the various Flight Clubs across Ontario.

13.3 Marketing Plan Timeline

The proposed marketing plan timeline suggests items to prioritize in terms of marketing material development. The timeline is presented on a 3-year basis and most of the development work should be completed in the first year.

Table 50 - Marketing timeline and action plan

Boxes in **burgundy** represent on-going task

Boxes in **blue** represent end of task

Marketing Timeline																																				
	Year 1 (2018)												Year 2 (2019)												Year 3 (2020)											
	Winter			Spring			Summer			Autumn			Winter			Spring			Summer			Autumn			Winter			Spring			Summer			Autumn		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Development of local partnerships and the content of the packages																																				
Definition and development of incentives (Fly'in packages)																																				
Define web site and brochure content																																				
Creation and launching of the new website																																				
Creation of brochures																																				
Sending brochures to associations																																				
Improved and updated social media																																				
Publication in specialized magazine																																				
Send Newsletters																																				
Participate to GA Events																																				

13.4 Budget

In order to promote the development concepts to targeted clients, the airports will have to allocate funds for marketing and business development activities. A 3-year budget estimate presenting the amount of financial resources necessary to deploy the marketing efforts is presented below.

Table 51 - Wingham 3-Year Marketing Budget

	Year 1	Year 2	Year 3
Common Marketing Initiative			
Enhance Web Site – dedicated sections for each development concepts	\$6,000	\$500 (updates)	\$500 (updates)
GA Expansion and Tourism			
Brochure for Fly-In-Packages Present the two (2) touristic packages: Alice Munro and Local Heritage Tour and the Blyth Festival Package	\$1,500	\$500	\$500
Promotional Leaflet for Hangar Development Market lots available for construction: dimensions, services, rates and location advantages.	\$1,000	\$500	\$500
Media Advertising Purchase advertising space in aviation publications. 3-4 times per year in specialized magazines: Wings, Adventure Pilots, Canadian Aviator. Advertise fly-in-packages and hangar construction opportunities.	\$3,000 (for 1/6 page advertising in 3 different magazines)	\$3,000 (for 1/6 page advertising in 3 different magazines)	\$3,000 (for 1/6 page advertising in 3 different magazines)
Advertising Placement on GA website Promote the fly-in-packages opportunities and adjust content with the season.	\$1,000	\$1,000	\$1,000
Air Show Participation (2 events) Great Lakes International Air Show and The Canadian International Air Show 2017. Network with aviation enthusiasts, present the Wiarton tourism offering and hangar development opportunity, and distribute brochures and leaflets.	\$1,800	\$1,800	\$1,800
Sub-total	\$8,300	\$6,800	\$6,800

Table 52 - Goderich 3-Year Marketing Plan

	Year 1	Year 2	Year 3
Common Marketing Initiative			
Enhance Web Site – dedicated sections for each development concepts	\$6,000	\$500 (updates)	\$500 (updates)
GA Expansion and Tourism			
Brochure for Fly-In-Packages	\$1,500	\$500	\$500
Promotional Leaflet for Hangar Development Market lots available for construction: dimensions, services, rates and location advantages.	\$1,000	\$500	\$500
Media Advertising Purchase advertising space in aviation publications. 3-4 times per year in specialized magazines: Wings, Adventure Pilots, Canadian Aviator. Advertise fly-in-packages and hangar construction opportunities.	\$3,000 (for 1/6 page advertising in 3 different magazines)	\$3,000 (for 1/6 page advertising in 3 different magazines)	\$3,000 (for 1/6 page advertising in 3 different magazines)
Advertising Placement on GA website Promote the fly-in-packages opportunities and adjust content with the season.	\$1,000	\$1,000	\$1,000
Air Show Participation (2 events)	\$1,800	\$1,800	\$1,800
Sub-total	\$8,300	\$6,800	\$6,800

14. Recommendations on Next Steps

From the proposed concepts we recommend developing at YGD and PR7, we summarize below the key steps and actions to be undertaken in the next twelve (12) months to help launch the projects. It should be noted that recommendations do not appear in order of importance and should be realised concurrently.

14.1 For Goderich Municipal Airport (YGD)

1. GA Hangar Development - Market the hangar construction opportunity to the pilot's community

- Include language about the GA aviation Hangar construction opportunity in the brochure promoting the Fly-In-Packages to GA pilots;
- Identify potential developers/investors and present them the development opportunity;
- Create an investment prospectus to attract and raise the level of interest from investors;
- Signature of the letter of intent with a qualified investor/developer or individual owner.

2. Tourism Fly-In Packages – Start developing marketing material and promoting YGD and the region to GA pilots.

- Accomplish the tasks scheduled for Year 1 in the marketing plan (See section 13.3.);
- Ensure user-friendly transportation options to meet the need of visitors;
- Monitor success of the promotional efforts by measuring monthly transient traffic;
- Identify areas of improvements for subsequent years;
- This concept can be developed with the County Tourism Office.

3. Residential Development – Secure real estate developer's interest and start collecting required documentation and approvals

- Change land designation and zoning to allow residential use on the zone identified for residential development;
- Perform a land appraisal on the 5-acre parcel identified for residential development;
- Prepare documentation showcasing the site and project information and the advantages of developing multiplex residential in the designated area;
- Identify real estate developers interested in the development opportunity;
- Signature of the letter of intent with a qualified investor/developer.

4. Schedule Passenger Service – Assess Demand and Determine Feasibility

- Conduct a full air service study to understand potential segments that may be interested in using the proposed air service: regional businesses, local residents, GTA residents visiting Huron County for leisure, Bruce Power management and executives and other vendors and contractors who need to regularly travel to the Bruce Power nuclear facility;
- Integrate data from all survey results and determine the feasibility of the proposed air service;
- Negotiate with a regional air carrier and sign a contract;
- Market the air service ahead of time (pre-sell tickets) and on a continuous basis;
- Upgrade the terminal interior;
- Launch service – press conference – first arrival/first departure.

5. Haskap Culture – Perform studies, confirm ownership model and launch pilot project

- Perform a soil test in order to get a baseline reading of specific nutrients, pH level and organic matter percentage (OM) and confirm soil potential for haskap culture;
- Prepare the business plan of the farm;
- Evaluate the development options – sole ownership or joint-venture – and select preferred model;
- If joint-venture option is retained, identify and approach potential partners with the concept.
- Based on market study findings, adapt the scale of the project (production size, capital requirements, and cultivated surfaces) to projected demand volumes;
- Identify potential sources of public funding to help finance the haskap farm.

6. Aviation Commercial and Industrial – Market the leasing opportunities to the industry

- Assist the hangar owners in developing the needed marketing material to promote former Sky Harbour facility and other building leasing opportunities;
- Advertise the buildings available for lease or purchase in the marketing brochures developed for the Tourism Fly-In Packages;
- Evaluate the possibility to jointly promote the buildings with the hangar owners;
- This concept can be developed in partnership with the County Economic Development Office.

14.2 For Richard W. LeVan Airport (PR7)

1. Aviation Hangar Development – Secure interest and building plans with interested parties and start the permitting process

- Revisit construction plans with tenants and confirm building and infrastructure requirements;
- Get a letter of intent from interested parties confirming their interest in building at PR7 and that they will cover the infrastructure cost in exchange of having their taxes and fees waived for a period of time equivalent to their infrastructure investment;
- Start the permitting process to get all of the required permits and other needed documents;
- Supervise construction work.

2. Tourism Fly-In Packages – Start developing marketing material and promoting PR7 and the region to GA pilots.

- Work with the County tourism department in defining the marketing material, targeted audience and promotional activities;
- Accomplish the tasks scheduled for Year 1 in the marketing plan (See Section 13.3.);
- Monitor success of the promotional efforts by measuring monthly transient traffic;
- Identify areas of improvements for subsequent years.

3. Sell off Agricultural Lands – Obtain the required approvals to sell property and identify potential buyers

- Perform a land appraisal of the 225.79 acres of agricultural lands designated for the sale;
- Obtain the needed approvals (if any) from Municipality of Morris-Turnberry to proceed with the land sale;
- Market the sale - Identify potential buyers;
- Secure interest from potential buyers through a letter of intent;
- Proceed with the land sale.

Appendix A

List of 14 Surveyed Organizations for Proposed Air Service between GTA and YGD

Acuren
Aecon
Areva
CTS NA
Hatch
Ian Martin Group
Kinectrics
NA Engineering
RCM Technologies
Rolls Royce
Sargent & Lundy
SNC Lavalin
Stantec
Tundra Technical Solutions