

GOLDEN MUNICIPAL AIPORT ECONOMIC VIABILITY STUDY: AIRPORT ASSESSMENT AND BUSINESS CASE REPORT

FINAL

OCTOBER 8, 2020





Golden Municipal Airport Economic Viability Study:
AIRPORT ASSESSMENT AND BUSINESS CASE
REPORT
Final Report

Town of Golden
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Executive Summary

The Town of Golden (the Town) commissioned HM Aero Aviation Consulting to complete an Economic Viability Study examining the current operation and future potential of Golden Airport: a facility owned and operated by the Town with financial support from the Columbia Shuswap Regional District (CSRD). This Airport Assessment and Business Case Report provides decision-makers with an understanding of the current state of infrastructure and operations at Golden Airport, potential business opportunities, and actions required to support activity growth and the management of future revenues and expenses. The study also examines the potential closure and redevelopment of the Airport for an alternative highest and best use.

A significant component of this study was the completion of a comprehensive stakeholder consultation program that attracted interest from individuals locally, as well as across Canada and the United States. An online public information session was held on June 24, 2020 which was attended by 62 people. A total of 51 stakeholders from 38 organizations were interviewed to gain qualitative feedback on the project. In addition, two online surveys were hosted for residents and businesses for approximately three months which generated a combined total of 634 responses. Finally, written submissions were received from six organizations and private citizens expressing their support for the Airport. The extensive stakeholder consultation program offered significant value to the project team and informed the preparation of the study.

Golden Airport primarily serves residents and visitors to Golden and Area A of the CSRD, with a combined population of approximately 6,900 residents. The Airport is contextualized by the regional economy which is dominated by significant activity in the tourism, transportation, and resource extraction sectors. The tourism industry is primarily driven by outdoor recreation activities (e.g. skiing, snowboarding) and unique strengths such as the high concentration of backcountry lodges in the region. The importance of this sector cannot be understated, as tourism is estimated to contribute \$88,000,000 to the regional Gross Domestic Product (GDP). Tourism access to Golden by road is limited by the travel times to nearby urban centres such as Calgary (3 hours) and Kelowna (4 hours), and can also be hindered by delays due to inclement weather, lane closures and construction, and natural obstacles such as avalanches. While Golden Airport does not support scheduled passenger air services, the facility facilitates access for private and charter aircraft.

The Airport supports nine businesses and tenants: Alpine Helicopters, Whitetooth Helicopters, East Kootenay Fuel Sales, Skydive Extreme Yeti, Golden and District Search and Rescue (GADSAR), a contracted weather station, a provincial wildfire suppression base, and two private hangars. Approximately 5,100 to 5,600 annual aircraft take-offs and landings were recorded based on data from 2017 to 2019, with 86% of movements generated by commercial operators, 11% by private aircraft, and 3% by military, air ambulance, and government aircraft.

Research, analysis, and consultations revealed that the social impacts of Golden Airport to the region are significant and widespread. The Airport supports four key roles that contribute to the social wellbeing of residents and visitors to Golden and Area A:

1. **Air Ambulance Operations:** The Province deploys ground ambulances, helicopters, and fixed-wing aircraft according to patient needs and resource availability, maximizing operational flexibility and the level of care that can be provided. Golden Airport supported approximately 90 air ambulance movements in 2019 from BC Air Ambulance (fixed-wing and helicopter) and STARS (helicopter). The Airport also supplements Golden and District Hospital's heliport that is limited in its inability to accept certain air ambulance helicopters, provide fuelling, and support nighttime operations.

2. **Wildfire Suppression:** Helicopters operate from the Airport in support of the British Columbia Wildfire Service and Parks Canada, with assets flexibly deployed to Golden on an as-needed basis.
3. **Search and Rescue:** GADSAR is the busiest Search and Rescue (SAR) organization outside of British Columbia's Lower Mainland and averages 60 to 80 missions per year, approximately 90% of which require the use of helicopters. GADSAR's decision to locate at the Airport was strategic in that the organization is colocated with Alpine Helicopters - their primary aviation partner. The Airport is also used to transfer SAR patients to ground and air ambulances.
4. **Emergency Management:** Golden Airport supports emergency management efforts following natural disasters, such as facilitating the arrival of geotechnical specialists during ice jams. The facility can also support airlift evacuations if ever required due to wildfires and other natural disasters.

The total annual economic impact of Golden Airport's tenants is estimated to include the support of 27 Full-Time Equivalent positions, \$2,547,000 in labour income, and \$2,971,000 in regional GDP contributions. The Airport plays a significant role in supporting the regional tourism industry, including facilitating helicopter access to 15 backcountry lodges; serving as a base for helicopter skiing, biking, hiking, mountain climbing, and white water rafting; functioning as a logistics base for Parks Canada; and providing SAR and air ambulance capabilities that indirectly support the safe functioning of the outdoor recreation sector. Additionally, approximately 1,200 tandem skydiving experiences occur at the Airport each year which are part of the region's adventure tourism niche, and the Airport facilitates access for over 300 itinerant aircraft from other communities on an annual basis. This includes visitors from across Canada and the United States.

Within the context of Canada's air navigation system, Golden Airport functions as an important fuel stop, waypoint, and emergency diversion location for two navigation routes commonly used by general aviation operators transiting east-west and north-south through the province. Pilots operating in the mountainous regions of British Columbia rely on airports such as Golden on their routes as interim decision points – if the conditions ahead are unsafe, the ability to land and wait for improved weather is key to aviation safety.

Town Council's current decision-making role over the Airport is typical of municipal airports across Canada, although limitations include the lack of involvement in governance by the CSRD, the ad hoc manner in which Airport development and operational matters are addressed, and the lack of mechanisms to formally communicate and engage with Airport tenants and businesses on a regular basis. Similarly, while the current administration of the Airport by Town Staff has generally been effective, the lack of a dedicated "champion" to operate, develop, and market the facility is viewed as a weakness to future Airport growth and sustainability. Furthermore, the assignment of non-dedicated Town resources to the Airport has led to challenges in the maintenance of the facility, especially with response times for snow clearing operations in the winter months. The current operation of Golden Airport as a Registered Aerodrome versus a Certified Airport is deemed to be the most reasonable approach from a federal regulatory standpoint given the site constraints, potential costs to certify the facility, and resources available within the Town. The Airport is well suited to support charter passenger air services, although operating as a Registered Aerodrome precludes scheduled passenger air services.

The Airport's infrastructure was found to be adequate to support current and future operations and businesses, with targeted capital projects required for the rehabilitation of existing assets and the support of new development. This includes the rehabilitation of Runway 14-32 and supporting taxiways, aprons, and visual navigation aids; implementing airside access controls; upgrading water and sanitary servicing; and replacing the terminal building when the end of its service life is reached. These projects are recommended to be phased over the next 20 years with a total estimated cost of \$3,922,000 (2020 dollars). Financial assistance to the Town, including grant opportunities and an external funding partner, is expected to be required to complete these capital projects. While select capital initiatives could be pursued to improve the operations of the Airport, such as lighting and upgraded Instrument Flight Procedures, significant costs would be incurred, and the future viability of the facility is not hindered without these projects.

Golden Airport's annual financial performance is typical of municipally owned airports in Canada that fulfill the socioeconomic needs of their region. The Airport's annual operating deficit has ranged between \$53,000 and \$70,000 over the past five years, with a shared funding arrangement in place between the Town and CSRD to cover the shortfall. Revenues from land lease agreements and rentals have increased from \$18,000 in 2015 to \$33,000 in 2019, or 19% per year. Operating expenses have also increased by an average of 7% per year from \$79,000 in 2015 to \$104,000 in 2019. Although municipal subsidization is required, expenses may be justified by the socioeconomic benefits realized within the region.

Comparator airports can be used to contextualize Golden Airport's current operations and challenges. Revelstoke Airport, Fairmont Hot Springs Airport, and Pemberton Regional Airport each offer unique lessons for Golden, including: the value of having a dedicated Airport Manager, opportunities for grant funding to reduce capital obligations, the challenges in securing charter passenger air services, and the importance of year-round maintenance. The operating deficit of Golden Airport is similar to that experienced at Revelstoke Airport and Pemberton Regional Airport, with both facilities requiring funding from their respective municipalities to support the socioeconomic benefits afforded to their communities.

Golden Airport can also be contextualized within the broader developments of the aviation industry. Specifically, the drawdown of regional air services and post-COVID network plans by carriers such as Air Canada may reduce the justification for pursuing scheduled passenger air services. Conversely, growth in corporate aviation including fractional ownership and subscription-based service models may represent an opportunity for Golden, where individuals with a high value of time choose to fly into the community. COVID-19 is expected to have a negative impact on the tenants and businesses at the Airport. Finally, changes to the approvals process for new aerodromes through the federal Impact Assessment Act and Canadian Aviation Regulations will create significant barriers to the reopening or relocation of Golden Airport if the decision is made to close the facility.

Based on the unique roles and services offered at Golden Airport, opportunities for increased development and revenue generation to gradually reduce the annual cost-revenue gap were identified. The primary aeronautical opportunities include the absorption of leasehold lots for new hangars and aviation businesses; the implementation of a rates and fees structure; the attraction of additional corporate and general aviation aircraft operators; the commencement of a charter passenger air service; and flight training and aviation-oriented education. Scheduled passenger air services are not identified as an opportunity given the Airport's non-certified status, lack of supporting infrastructure, and inability to accommodate nighttime operations. In addition to the aeronautical opportunities noted above, the closure of Golden Airport could present opportunities for redevelopment for a non-aviation highest and best use. This could include residential, commercial, industrial, and / or public land uses.

Using separate combinations of the aviation and non-aviation development and revenue generation opportunities, three business cases were prepared to illustrate various futures for Golden Airport:

1. **Airport Closure, Full Redevelopment:** The closure of Golden Airport and termination of all aviation activity at the site. The property could be offered for sale and redevelopment based on a non-aviation highest and best use.
2. **Helicopter Operations, Partial Redevelopment:** Runway 14-32 would be decommissioned, and the Airport's infrastructure consolidated to support rotary-wing operations at an acceptable level of service. The balance of the property could be redeveloped for non-aviation purposes.
3. **Status Quo (Airport Retention):** The Airport would continue to be owned and operated by the Town and be available to fixed-wing and rotary-wing aircraft. Aviation-related development and revenue generation opportunities would be selectively pursued by the Town and its partner organizations.

Each business case was evaluated against a multi-step process that considered three criteria: 1) Social impacts to Golden and Area A; 2) Economic impacts; and 3) The financial sustainability of the business case. Based on the evaluation process, Option 3 – Status Quo (Airport Retention) is recommended as the preferred business case as:

- Continuing to operate the Airport ensures that the full range of air ambulance services (fixed and rotary-wing) can be provided; the wildfire suppression base will be retained; SAR operations can be maximized; and emergency management activities can continue;
- Economic benefits will be maintained, namely through community access, aviation-related tourism activities, and support for regional tourism providers such as backcountry lodges; and
- The required municipal funds are forecast to remain relatively stable based on effective financial management and the attainment of select realistic revenue generation opportunities.

Accordingly, the following recommendations are presented to the Town of Golden for consideration:

1. Golden Airport should continue to be operated as an aerodrome that serves the social and economic needs of Golden and Area A.
2. A Strategic and Tactical Plan should be prepared that considers matters such as a facility development and renewal plan; administrative and operational improvements; a rates and fees structure; opportunities for funding and governmental support; and business development recommendations.
3. Supported by the Strategic and Tactical Plan, the Town should undertake modest and targeted improvements at the Airport to strengthen the facility's position as an economic driver and improve its social benefits.
4. Strategic discussions should be initiated with the CSRD to establish a capital funding partnership that is consistent with the regional social and economic importance of Golden Airport and the Regional District's additional financial capacity.

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1 INTRODUCTION

1.1 Background

The Town of Golden (the Town) has commissioned HM Aero Aviation Consulting (HM Aero) to complete an Economic Viability Study examining the current operation and future potential of Golden Municipal Airport (Golden Airport). This Economic Viability Study was prepared through an extensive stakeholder engagement program, research of previous studies, a facility inspection, and the application of industry trends and opportunities as they relate to British Columbia's interior and within Canada.

This study provides decision-makers at the Town and other funding partners such as the Columbia Shuswap Regional District (CSRD) with an understanding of the current state of infrastructure and operations at Golden Airport, potential business opportunities, and actions required to support activity growth and the management of future revenues and expenses. Further, the study examines the potential closure and redevelopment of the Airport for an alternative highest and best use.

Golden Airport is owned and operated by the Town with financial support from the CSRD. The current Town Council has adopted four guiding principles for their political term of office, one of which is to manage municipal assets for the future. Under this guiding principle, the short-term priority of determining the future viability of Golden Airport was established with the following rationale:

"In the context of broader and responsible asset management, a deteriorating facility, limited use, costs for rehabilitation, and unknown potential, the practical viability of keeping and maintaining an airport must be examined."

1.2 Project Objectives

The objectives of the Economic Viability Study for Golden Airport are identified within two parts:

1. An Airport Assessment and Business Case Report, with the following objectives:
 - Undertake a comprehensive stakeholder consultation program;
 - Analyze the Airport's regional context;
 - Prepare a comprehensive profile of Golden Airport, including its economic and social benefits;
 - Review and comment on the Airport's administration and financial performance;
 - Assess the condition of all infrastructure assets;
 - Identify development and revenue generation opportunities; and
 - Recommend a realistic and defensible business case to the Town.
2. Depending on the findings of the Airport Assessment and Business Case Report and the decision of Town Council on the future of the Airport, HM Aero will complete either:
 - A Strategic and Tactical Plan that will guide the Town on the future operation and growth of Golden Airport; or
 - An Airport Transition Plan that considers the use of the site for non-aviation redevelopment.

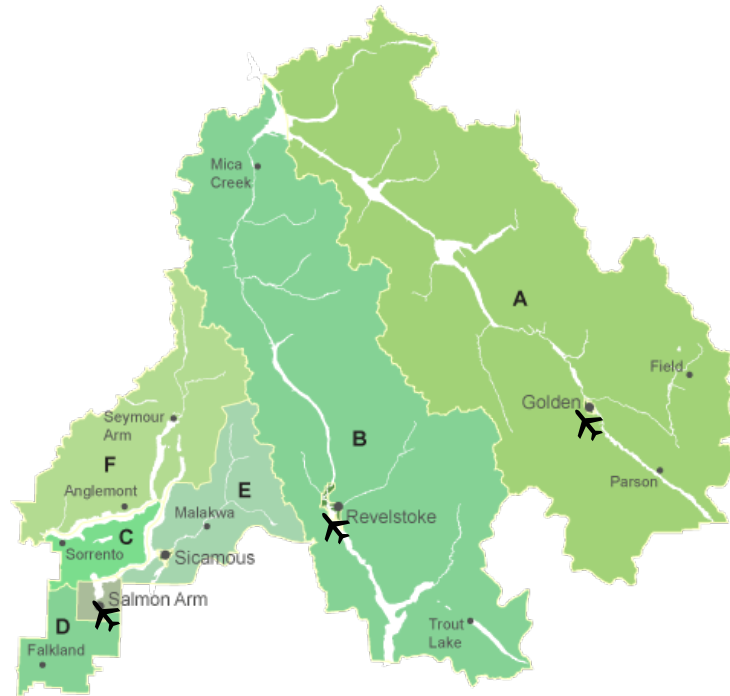
2 REGIONAL CONTEXT

The regional profile serves as a high-level overview of the characteristics that contextualize current activities and demand for aviation services at Golden Airport. The Town of Golden is located within British Columbia's Columbia Valley, approximately 260 km west of Calgary. Golden Airport is situated within the boundaries of the Town, immediately west of the main urban area.

2.1 Demographic Context

Golden Airport primarily serves the Town of Golden and the Columbia Shuswap Regional District (Figure 2.1). The CSRD is a federation of the Town of Golden, City of Revelstoke, City of Salmon Arm, and District of Sicamous, as well as six unincorporated Electoral Areas (identified as Electoral Areas A to F). The members of the CSRD cooperate on matters of regional importance including inter-municipal shared services, such as recreation facilities. The 2016 Statistics Canada census population of the CSRD, including its four member municipalities, was 51,366.

Figure 2.1 - Columbia Shuswap Regional District

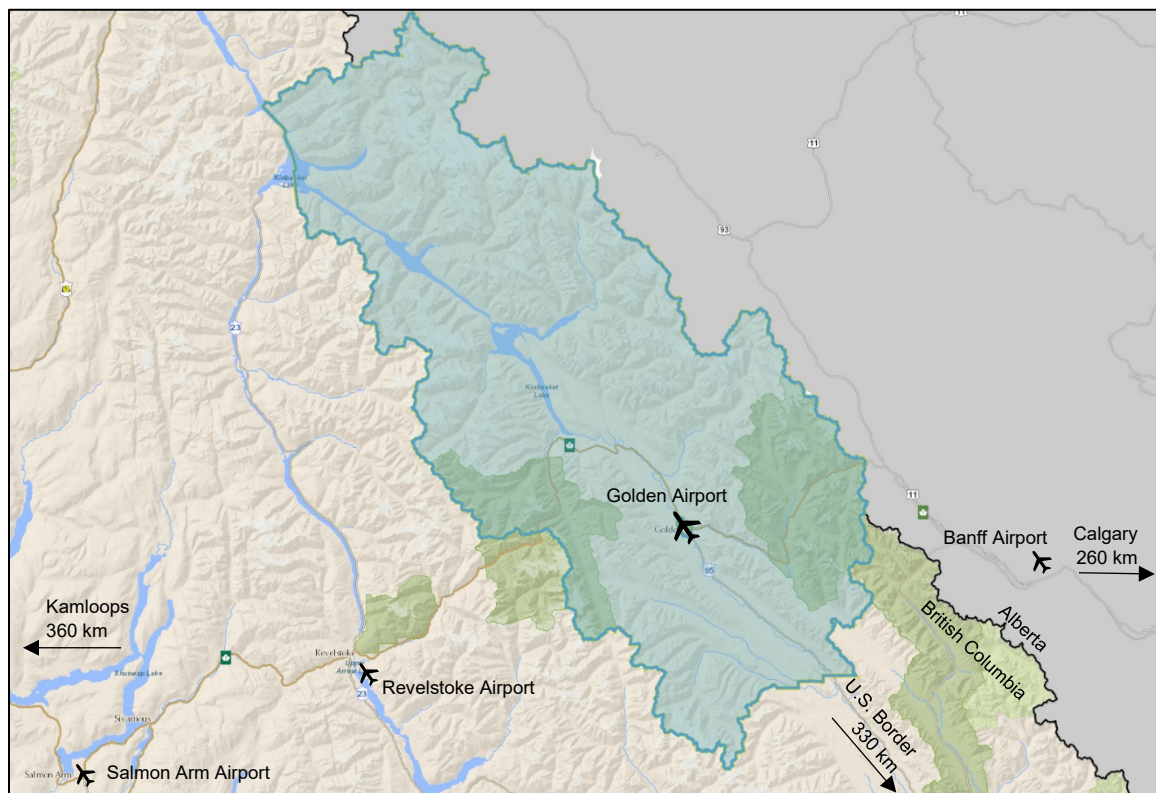


The CSRD is primarily served by three airports: Salmon Arm Airport, Revelstoke Airport, and Golden Airport (Figure 2.1). Given the size of the CSRD and the availability of other airports within its boundaries, a catchment area must be delineated to identify the area that is generally served by Golden Airport. The Golden Airport catchment area is defined as the Town of Golden and Electoral Area A, as shown in Figure 2.2.

Based on Statistics Canada census data, this catchment area had a population of approximately 6,900 residents in 2016, a 1.3% increase since 2011. The 2.7% growth rate in Area A between 2011 and 2016 outpaced the 0.2% increase experienced within the Town of Golden. The catchment area growth rate is lower than that experienced in British Columbia (5.6%) during the same period, as well as nearby communities such as Revelstoke (5.7%) and Invermere (14.8%).

The modest growth rate in Golden is a result of numerous factors, such as housing affordability and availability, the seasonal nature of tourism-related occupations, and challenges in attracting and retaining skilled labour. Golden's rural character can be an attraction for individuals that seek an outdoor-oriented lifestyle, but also a disincentive to prospective residents that require the services and amenities of larger urban areas. The population size and growth rate of Golden challenges the Town's ability to fund the Airport insofar as it limits the municipal tax base.

Figure 2.2 - Airport Catchment Area (Town of Golden and Area A)



2.2 Economic Context

Economic development in Golden and the surrounding region involves the cooperation of several municipalities and organizations, including:

- **Town of Golden:** Provides funding to organizations such as Tourism Golden and the Golden Community Co-op, develops the municipal Resort Development Strategy, and undertakes capital projects with links to economic development (e.g. the Kicking Horse River dike and lane upgrade project).
- **CSRD:** Provides funding through tools such as the Economic Opportunity Fund and Columbia Basin Trust.
- **Tourism Golden:** The Destination Marketing Organization (DMO) which is responsible for marketing the regional tourism industry, undertaking stakeholder education activities, and advocating for the needs of the tourism sector.
- **Golden Community Co-op:** The non-for-profit organization responsible for community economic development in Golden. This includes activities such as preparing a Community Economic Development Strategy and implementing the Affordable Housing Strategy.
- **Kicking Horse Country Chamber of Commerce:** Advocates for the needs of its approximately 200 members in response to current issues (e.g. labour shortages), serves as a networking forum, and provides business support resources.

2.2.1 Current Economic Context

Statistics Canada 2016 North American Industry Classification System (NAICS) data was reviewed for the catchment area, as shown in Table 2.1. Golden's economy is partially diversified, with significant activity in:

- Tourism, including accommodation, food services, entertainment, and recreation services;
- Transportation, including CP Rail's extensive operations; and
- Resource extraction and forestry, such as the Louisiana-Pacific (LP) mill.

Tourism is a highly important and growing part of the regional economy, with Golden and Area A serving as a year-round destination with a diverse array of attractions, especially within the adventure tourism sector. Based on 2019 data from Tourism Golden:

- 285 local businesses and 1,392 Full-Time Equivalent positions are engaged in the tourism sector;
- \$125 million in annual direct revenues are collected by tourism businesses;
- Tourism generated an estimated \$87.8 million in Gross Domestic Product; and
- An average of 75% of gross business revenues are generated from tourism.

Table 2.1 - Catchment Area NAICS Data

NAICS Classification	Individuals	Proportion
Accommodation and Food Services	580	14.9%
Retail Trade	395	10.1%
Transportation and Warehousing	370	9.5%
Construction	355	9.1%
Manufacturing	340	8.7%
Arts, Entertainment, and Recreation	300	7.7%
Health Care and Social Assistance	225	5.8%
Education	215	5.5%
Waste Management and Remediation Services	200	5.1%
Agriculture, Forestry, Hunting and Fishing	190	4.9%
Other	725	18.6%

Golden's unique tourism selling points include its authentic local character and adventure-based activity offerings. Regional tourism is primarily driven by outdoor recreational activities such as skiing and snowboarding, hiking, mountain biking, and white-water rafting. The region also has the highest concentration of backcountry lodges in North America. Furthermore, Kicking Horse Mountain Resort (KHMR) is one of the signature tourism destinations in the region, offering all-season activities such as skiing, backcountry hiking, and mountain biking. Golden is also located near several national parks (Banff, Glacier, Jasper, Kootenay, Mount Revelstoke, and Yoho) and provincial parks, resulting in visitors often coming to Golden as part of larger trips.

To enhance the community's position in the tourism sector, the Town of Golden has published a Resort Development Strategy and undertakes capital projects that support tourism goals. A strategic disadvantage noted in the Resort Development Strategy is the challenge of accessing Golden by road and air, which may deter visitors. Therefore, this report will consider opportunities and strategies for Golden Airport to support the tourism development efforts of the Town and other key stakeholders.

The relationship between Golden Airport and the regional economy is further described in the Airport Profile.

2.2.2 Future Economic Prospects

At the time of this report's preparation, all levels of the Canadian economy are being impacted by the COVID-19 pandemic. The effects of the pandemic to the economy are wide-reaching because of restrictions to domestic and international travel, the closure of non-essential businesses, physical distancing measures, and uncertainty surrounding consumer confidence. It is expected that the performance of the tourism sector will be negatively impacted. While the extent of these impacts is unknown, the downturn will likely have a negative effect on demand for the businesses and services of Golden Airport.

Golden Community Co-op has begun the preparation of a Community Economic Development Strategy for Golden and Area A. While the findings of this Strategy were not available to the project team, stakeholder consultations indicate a desire to diversify the regional economy in addition to the base that has been built on tourism. It is recommended that Golden Airport be considered through the Community Economic Development Strategy and leveraged as a strategic asset, both through tourism and diversification opportunities.

2.3 Intercommunity Transportation

2.3.1 Road Network

The Town of Golden and the surrounding area is accessed by two primary highways: British Columbia Highway 95 and the Trans-Canada Highway (TCH). Highway 95 begins in Idaho and terminates in Golden, connecting the Town to the United States and communities such as Cranbrook, Fairmont Hot Springs, Invermere, and Radium Hot Springs to the south. The TCH is the primary east-west route from Golden to major destinations in Alberta and British Columbia such as Banff, Calgary, Kamloops, Kelowna, and Vancouver.

As part of the Kicking Horse Canyon Project, 26 km of the TCH is being upgraded to a four-lane design to improve access. Over 21 km has been upgraded through the first three phases. Phase 4 will address a 4.8 km segment in the vicinity of Golden and work is scheduled to commence in late 2020, with completion estimated in the winter of 2023-24. Partial and full roadway closures and associated detours will be required as part of Phase 4. The cost of Phase 4 of the project is estimated at \$601,000,000 in addition to the \$273,000,000 spent in Phases 1 to 3, making it one of the largest infrastructure projects underway in Canada.

Intercommunity passenger bus service is provided by Rider Express as part of its route from Vancouver to Calgary. Limited service is provided between Golden and Cranbrook by BC Transit through its Health Connection program, which serves the Kootenay East Regional Hospital District. Select resorts in the region also offer privately contracted shuttle services; Kicking Horse Mountain Resort, for example, historically offered a seasonal bus service to Calgary International Airport in partnership with Brewster Transportation.

The driving distances and times from Golden to eight destinations are provided in Table 2.2. The driving time to access Golden from other municipalities can be significant, with this factor exacerbated during inclement weather and when road closures are initiated. The travel time to Golden by road can influence visitor behaviour; tourists with minimal schedule constraints may choose to drive to the region, whereas individuals that assign a high value to their time may consider faster alternatives such as travelling by air to vacation in other regions. Without time-effective alternatives to road travel, the geographic extent of the visitor catchment area is currently limited. Access via the TCH and Highway 95 can be further limited by:

- Full or partial closures due to inclement weather, such as snowstorms;
- Natural obstacles, including mudslides, avalanches, and road washouts; and
- Lane closures and construction.

Table 2.2 - Driving Distances and Times

Destination	Driving Distance	Driving Time	Destination	Driving Distance	Driving Time
Cranbrook, BC	250 km	2h40m	Kamloops, BC	360 km	4h00m
Calgary, AB	260 km	3h00m	Castlegar, BC	400 km	5h15m
U.S. Border	330 km	3h30m	Edmonton, AB	540 km	6h00m
Kelowna, BC	350 km	4h00m	Vancouver, BC	710 km	8h00m

2.3.2 Rail Network

Canadian Pacific (CP) provides freight rail service through Golden, with the community serving as a junction on its north-south and east-west rail lines. Based on the 2008 Official Community Plan, approximately 40 CP trains travel through Golden daily. CP maintains a significant operational presence in Golden, including a rail yard, repair and maintenance facility, engineering services, and signals and communication systems. CP's investment in Golden increased in 2019 with the development of a new crew housing facility.

Golden does not receive passenger rail service, with the nearest VIA Rail stations located in Jasper and Kamloops.

2.3.3 Air Network

Golden Airport does not support scheduled passenger air services. The nearest airport with scheduled passenger services is Cranbrook / Canadian Rockies International Airport, approximately 2h40m driving distance from Golden. From Cranbrook, flights are available to Vancouver, Victoria, Kelowna, and Calgary on three air carriers. Golden is also located approximately 3h00m from Calgary International Airport, which is served by numerous Canadian, U.S., and international air carriers offering flights to a wide range of destinations. Given its proximity to the Rocky Mountains, Calgary functions as a gateway for tourists.

As described above, Golden is a significant driving distance from major municipalities in British Columbia and Alberta, as well as points further afield in Canada and the United States. Travel times by road can incentivize individuals with a high value of time to consider alternative transportation modes, including the use of private and charter aircraft on ad hoc basis. Charter air services are not provided at Golden on a regular basis, although some aviation organizations have expressed a desire to base aircraft at Golden to serve this market segment.

The nearest alternate airports to Golden include:

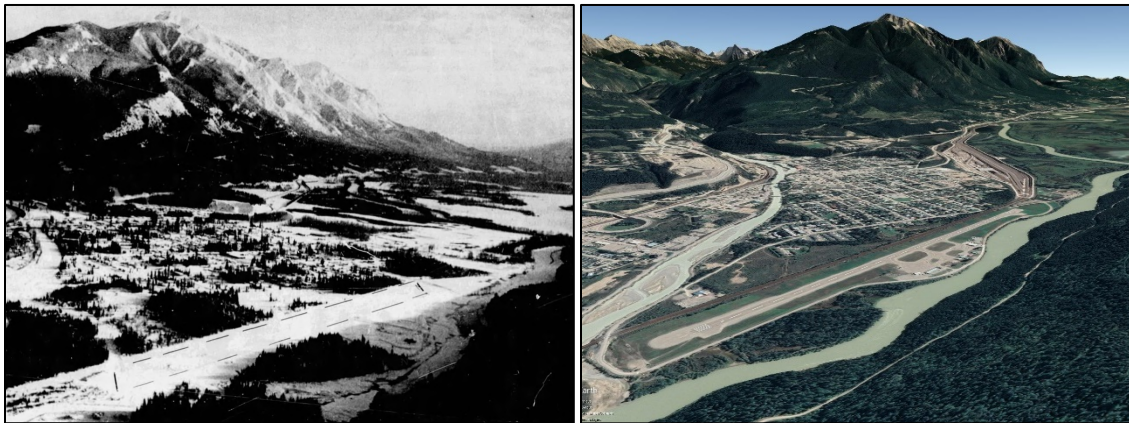
- Revelstoke Airport, 100 km southwest;
- Salmon Arm Airport, 170 km southwest;
- Banff Airport, 100 km east;
- Radium Hot Springs Airport, 100 km southeast;
- Invermere Airport, 110 km southeast;
- Fairmont Hot Springs Airport, 130 km southeast; and
- Valemount Airport, 240 km northwest.

3 AIRPORT PROFILE

The Airport Profile includes the examination of the facility's history, infrastructure, businesses and tenants, activity levels, and socioeconomic impacts. From these elements, a comprehensive role statement is provided to summarize the current purpose of the Airport.

3.1 History

A proposal to develop the current Golden Airport was made in 1968 by the Golden Eagles Flying Club, replacing an airstrip previously serving the community. The 1968 proposal called for a facility capable of accommodating multi-engine aircraft such as the Douglas DC-4, charter flights, and wildfire suppression operations. Work to develop the airport was led by local volunteers and supported by a \$50,000 grant from the federal treasury board, with the project completed in 1970. The initial airport had a 2,600 ft. runway which was subsequently extended to 4,000 ft. in 1991 and 4,528 ft. in 1993.



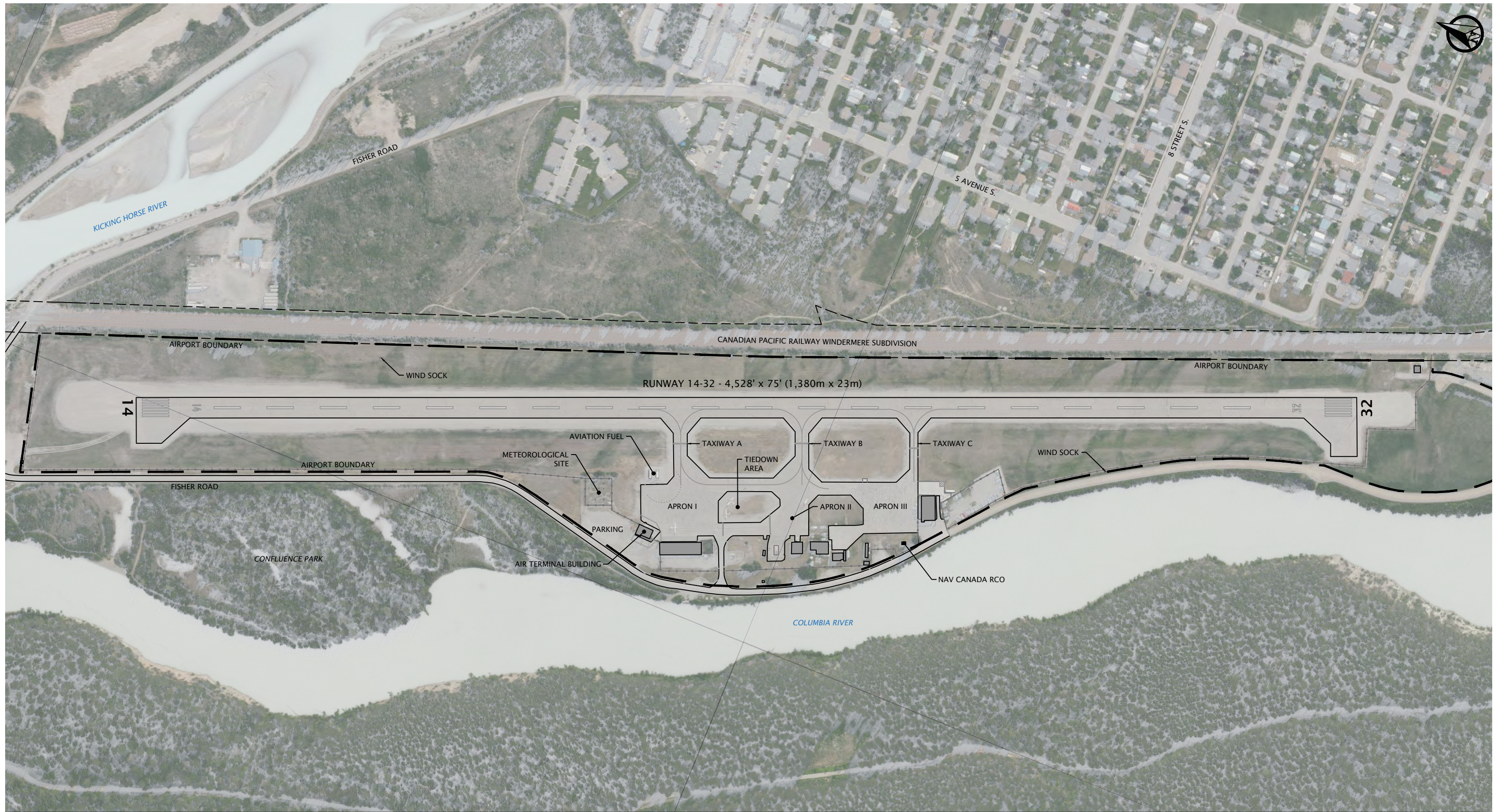
Golden Airport in 1971 and 2019 (Golden Star / Google Earth)

3.2 Infrastructure Overview

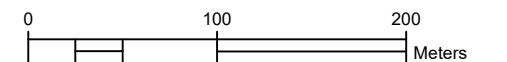
The Site Plan is presented in Figure 3.1. Operations at Golden Airport are supported by numerous infrastructure assets that are summarized in Table 3.1 and examined in detail through Section 5 – Airport Infrastructure Assessment.

Table 3.1 - Airport Infrastructure Overview

Airside System	
Runway 14-32	Supports aircraft take-offs and landings.
Taxiways (A, B, and C)	Facilitates the ground movement of aircraft to / from Runway 14-32 and throughout the airfield.
Aprons (I, II, and III)	Used for aircraft parking, fuelling, loading and unloading, and manoeuvring.
Visual Navigation Aids	Provide information to pilots and includes Wind Direction Indicators, runway and taxiway paint markings, and signage.
Airport Support Services	
Terminal Building	Supports flight planning, crew rest, and office spaces.
Meteorological Services	Observations of current weather conditions.
Instrument Flight Procedures	Enable aircraft to approach the Airport without visual reference to the ground.
Aircraft Support Services	Includes aircraft fuelling and parking.
Groundside System	
Fisher Road	Provides access to the Airport from Golden.
Parking Lot	Used for staff, tenant, and visitor vehicle parking.
Perimeter Fence and Access Control	Limits access to the airfield by wildlife, vehicles, and people.
Utilities and Servicing	
Potable Water	Required to support on-site activities and structures.
Sanitary Sewer	
Electricity	
Fire Suppression	The accident and emergency response capabilities of the Golden Fire Department.
Development Lots	
Development Lots	Parcels of land that are available for leasing and development for a variety of purposes (e.g. aircraft hangars).



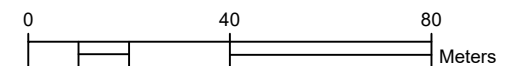
GOLDEN MUNICIPAL AIRPORT
ASSESSMENT AND BUSINESS CASE REPORT
FIGURE 3.1 - SITE PLAN
OCTOBER 2020



*FOR PLANNING PURPOSES ONLY



GOLDEN MUNICIPAL AIRPORT
ASSESSMENT AND BUSINESS CASE REPORT
FIGURE 3.2 - EXISTING TENANT PLAN
OCTOBER 2020



*FOR PLANNING PURPOSES ONLY

3.3 Businesses and Tenants

Golden Municipal Airport supports the following businesses and tenants, which are also shown on Figure 3.2:

- **Alpine Helicopters:** Provides a range of services including aerial tourism, heli-skiing, search and rescue, wildfire management, and charter helicopter operations.
- **Whitetooth Helicopters:** Provides helicopter charter services such as aerial sightseeing, heli-skiing, heli-biking, and backcountry lodge support.
- **East Kootenay Fuel Sales (EKFS):** EKFS sells aviation fuel and is contracted by the Town to serve as the Airport Ambassador.
- **Golden and District Search and Rescue (GADSAR):** GADSAR is a non-profit volunteer organization that was established in 1965. GADSAR assists the Royal Canadian Mounted Police and BC Ambulance Service with search and rescue, backcountry medical rescue, and disaster response.
- **NAV CANADA:** Provides weather observation and reporting services through a privately contracted third-party.
- **Province of British Columbia:** The Province maintains a wildfire suppression base.
- **Skydive Extreme Yeti:** Provides tandem skydiving services.
- **Private Tenants:** Two tenants lease development lots for private hangars.

In addition, Kicking Horse Aviation is planned to commence operations in 2020 and provide fixed-wing aircraft charter services and aerial sightseeing tours.

3.4 Activity Levels

An aircraft movement is defined as a single take-off, landing, or touch and go. In 2016, aircraft movements were recorded informally through a voluntary sign-in sheet. The Town has since contracted East Kootenay Fuel Sales to monitor and record Airport activity, with consistent data available from 2017 to 2019. The difference in data collection practices mean that the 2016 and 2017-2019 datasets are not directly comparable. Further, the size of the dataset limits the ability to identify trends over time.

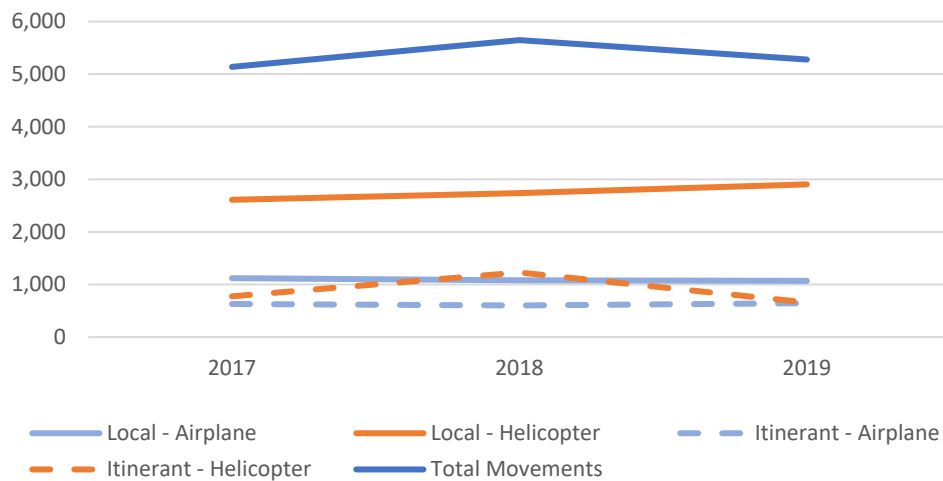
Itinerant and Local Aircraft Movements

As shown in Figure 3.3, total aircraft movements have varied between a low of approximately 5,100 in 2017, a high of 5,600 in 2018, and 5,300 in 2019. These movements are classified as:

- **Itinerant:** Aircraft arriving from or departing to another airport; or
- **Local:** Aircraft departing from and returning to Golden Municipal Airport.

Touch-and-go aircraft movements are not tracked in the dataset.

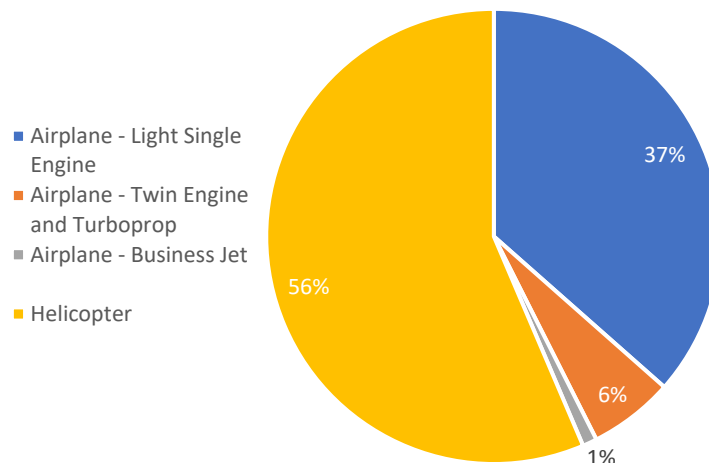
Figure 3.3 - Itinerant, Local, and Total Aircraft Movements



As demonstrated in Figure 3.3, most movements at Golden Municipal Airport are aircraft operating locally, with this category averaging 71% of total annual movements. The higher share of local movements can primarily be attributed to the helicopter operators that are based at the Airport. In 2019, 97% of local movements were by commercial operators and 73% of these movements were performed by helicopters. Locally based commercial helicopter operators therefore represent the highest user category at the Airport.

Itinerant aircraft comprise an average of 29% of total annual movements. As shown in Figure 3.4, itinerant movements are more evenly divided between helicopters and airplanes, excepting the significant increase in itinerant helicopter traffic in 2018 due to the highly active wildfire season (Figure 3.3). Itinerant airplane movements are generally conducted by light general aviation aircraft such as the Cessna 172 and Piper PA-28, with approximately 7% of itinerant movements performed by larger multi-engine, turboprop, and turbofan (jet) aircraft.

Figure 3.4 - Itinerant Aircraft Categories



Aircraft Operator Types

Five aircraft movement categories are recorded at Golden Municipal Airport:

1. **Private:** Aircraft movements not operated for hire or commercial purposes, with the aircraft owned by a private individual or group.
2. **Commercial:** Aircraft that are commercially licensed and operated for compensation, such as flights by charter providers, heliskiing, and skydiving companies.
3. **Air Ambulance:** The movement of critical care and transfer patients between Golden and other municipalities.
4. **Air Force:** Fixed-wing and helicopter movements by the Royal Canadian Air Force (RCAF), such as Search and Rescue (SAR) flights and tactical operations training.
5. **Government:** Operations by municipal, provincial, and federal government aircraft, such as Transport Canada and the Royal Canadian Mounted Police (RCMP).

As shown in Table 3.2, an average of 86% of annual movements are operated for commercial purposes. Approximately 11% of annual movements are private aircraft, with the remaining 3% of movements classified as air ambulance, air force, and government. This demonstrates the diversified nature of the Airport's traffic which is balanced by the stability of its established commercial operators.

Table 3.2 - Aircraft Operator Types

	2017	2018	2019	Average % of Movements
Commercial	4,484	4,907	4,450	86%
Private	516	518	695	11%
Air Ambulance	52	64	86	3%
Air Force	66	146	38	
Government	20	12	10	
Total	5,138	5,647	5,279	100%

Seasonality

Activity at the Airport varies throughout the year, as shown in Figure 3.5. Monthly movements across the dataset exhibit a consistent trend, including:

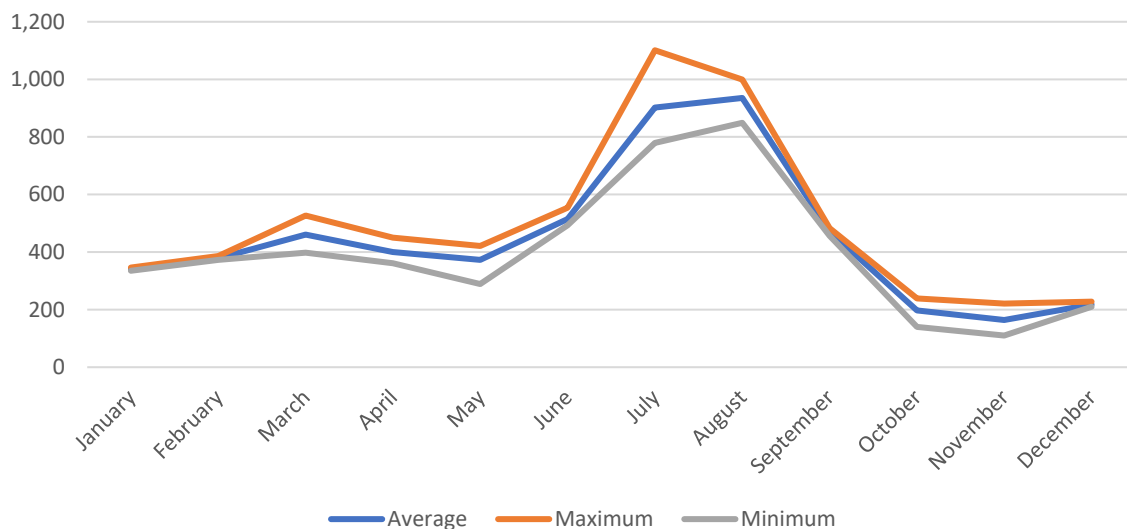
- A moderate level of activity in the winter and spring, from January to May;
- A summer seasonal peak between June and September; and
- A seasonal low from October to December.

Therefore, historical Airport movements have ranged from a high of approximately 35 daily movements in July 2018 to a low of approximately 4 daily movements in November 2017. The seasonal trends evident at Golden Municipal Airport can be linked to several factors, such as:

- Airport availability because of weather conditions and winter maintenance;
- Seasonal tourism activities, such as winter heliskiing; and
- Wildfire suppression operations in the summer.

Between 2017 and 2019, an average of 97.5% of the days of the year had at least one aircraft movement recorded.

Figure 3.5 - Monthly Airport Movements (2017-2019)



3.5 Social Impacts

Golden Airport serves key social roles including the support of wildfire suppression operations, air ambulance activity, search and rescue missions, and military and police aircraft. Analyzing the social benefits of an airport is challenging because the direct financial and economic impact cannot necessarily be quantified. While a dollar amount cannot always be assigned to social benefits, their value should be recognized. These benefits apply beyond Golden to Area A of the CSRD, strengthening the role of Golden Airport as a regional social asset.

3.5.1 Wildfire Suppression

Wildfire suppression operations are conducted from Golden Airport by the British Columbia Wildfire Service and Parks Canada, as well as through privately contracted aircraft operators.

British Columbia Wildfire Service

The British Columbia Wildfire Service – Southeast Fire Centre is based at Castlegar Airport and oversees wildfire suppression operations in Golden and the surrounding region. Golden Airport historically was used as a wildfire protection base serving both fixed-wing and helicopter assets. The Airport was an important asset during a period of high regional wildfire activity in the 1980s. The decision by the Province to consolidate and centralize its wildfire suppression assets resulted in most operations being moved to Revelstoke Airport and a gradual decrease in size of the Golden base.

The Province of British Columbia currently leases a lot at Golden Airport which is occupied by a small crew support trailer. Wildfire crews and aircraft are not permanently based at Golden during the fire season. Assets are instead dispatched from the Revelstoke base, when required. If wildfire suppression is required near Golden, aircraft may depart from Revelstoke and land at Golden for fuelling and support services before resuming operations. During periods of high wildfire activity in the region, the Airport is used by helicopters moving wildfire crews and attacking fires with drop buckets, as well as by fixed wing patrol aircraft. The two locally based commercial helicopter operators, Alpine Helicopters and Whitetooth Helicopters, are also contracted by the Province for wildfire suppression needs.

While Golden is currently limited to being a forward wildfire attack base and is secondary to Revelstoke Airport, consultations with the Southeast Fire Centre indicate that the Airport is a key asset in being able to provide a flexible and timely response to nearby fires. In the event of a sustained and large-scale fire in the area, Golden Airport enables the Southeast Fire Centre to surge its capacity in the region and offer an improved response without aircraft having to transit from the fire area to other airports. An example of this surge model was the 2018 fire season, when six helicopters were temporarily based at Golden Airport for several weeks to support suppression efforts. The loss of Golden Airport would decrease the wildfire response capabilities of the Province when future fires occur in the area.



Golden Airport Forward Attack Base

Parks Canada

Parks Canada is responsible for wildfire suppression operations in the nearby national parks, such as Glacier, Yoho, and Kootenay National Park. Private helicopter operators at Golden Airport are engaged by Parks Canada on as-needed, seasonal, and multi-year contracts to support wildfire suppression operations. The availability of Golden Airport and the private helicopter operators based at the facility is a significant asset to Parks Canada in their emergency responses.

3.5.2 Air Ambulance Operations

The Golden and District Hospital offers services such as inpatient, obstetrics, and emergency services. Community hospitals such as Golden's provide basic patient stabilization prior to a patient being transferred to a trauma hospital. From consultations with B.C. Interior Health, it is understood that Golden and District Hospital is not equipped to handle critically ill patients. Procedures such as trauma surgeries, cardiac responses, neonatal procedures, pediatrics, intensive care, and CT and MRI scans require the patient to be transferred to facilities with higher levels of care, such as Kelowna, Vancouver, and Calgary.

Transferring patients from Golden to other hospitals can be accomplished by three primary modes of transportation:

- **Ground Ambulance:** Where the patient's destination facility is within driving distance, a ground-based ambulance and medical team can be dispatched from Golden. An example is the movement of a patient to Cranbrook (2h45m) or Kelowna (4h15m) by ground ambulance. Ground ambulance transfers are dependent on road conditions, weather, and the availability of resources, including an ambulance and medical team.
- **Air Ambulance:** Air ambulances can be dispatched to transfer patients from Golden Airport and Golden and District Hospital Heliport; the former option requires an in-town ground ambulance transfer from the Airport to the Hospital. Fixed-wing and helicopter air ambulances are available to Golden and are dispatched according to the specific needs of each patient. Air ambulance operations are subject to constraints such as weather, airport maintenance and snow clearing, and resource availability.
- **Ground Ambulance and Air Ambulance:** Where an air ambulance is required but operations from Golden and District Hospital Heliport or Golden Airport cannot occur (e.g. due to inclement weather), a ground ambulance can transfer the patient to an alternate airport (e.g. Fairmont Hot Springs Airport, Revelstoke Airport) to meet an air ambulance for onward transportation.

Air ambulances are generally low volume, high acuity operations in that the total number of occurrences per year is low, but the severity and level of care of transported patients is significant. Having both ground and air ambulance (fixed and rotary wing) transportation as options maximizes operational flexibility and provides healthcare professionals with the ability to request the mode of transport that will provide the required level of patient care. Accordingly, the availability of air ambulance operations in Golden is a matter of high importance in the opinion of consulted medical professionals. Among the concerns identified during consultations are that:

- Ground ambulances can be limited by road closures due to weather and obstructions (e.g. avalanches);
- STARS and BC Air Ambulance generally provide higher levels of onboard care compared to Basic Life Support ground ambulances;
- Backcountry recreation activities can lead to serious injuries requiring expedient patient evacuation;
- Dispatching an ambulance and medical team for an intercommunity transfer lowers the response capability of the ambulance fleet and pulls resources from Golden and District Hospital for extended periods of time, hindering medical care capacity; and
- Prompt transportation to higher level care centres is a matter of rural equitable access to healthcare.

The importance of air ambulances in the British Columbian healthcare system was recently demonstrated through the Rural, Remote, First Nations and Indigenous COVID-19 Response Framework. This document, published in 2020 by the BC Ministry of Health in response to the COVID-19 pandemic, provides a framework to ensure rural communities such as Golden have access to critical health care for high severity patients. To satisfy part of this need, the Province added five extra air ambulance units and the document examined the role of interfacility transportation as part of providing equitable rural healthcare. The document demonstrates the role of fixed wing air ambulance services in responding to major public health events.

Golden supports operations by BC Air Ambulance and the Shock Trauma Air Rescue Society (STARS) at both Golden Municipal Airport and Golden and District Hospital Heliport. The total number of air ambulance movements at Golden Airport has increased from 52 in 2017 to 86 in 2019¹, excluding helicopter operations at Golden and District Hospital. Air ambulance operations at Golden Airport are not limited to residents of Golden and also serve residents and visitors to the surrounding region.

BC Air Ambulance

BC Air Ambulance provides interfacility transfer flights to move patients from Golden to facilities such as Kelowna (approximately 75% of missions) and Vancouver (25% of missions). Fixed-wing aircraft are the only option for select types of patients requiring movement by air ambulance, including the specialized infant care team. The primary advantage of BC Air Ambulance's fixed wing aircraft is their ability to operate longer distance flights to Kelowna and Vancouver more quickly, as such operations would be limited by relying on helicopters and ground ambulances. For 2017 to 2020, an average of 20 fixed wing air ambulance missions (40 aircraft movements) have occurred per year at Golden Airport.

Carson Air is the air carrier that is contracted by BC Air Ambulance to operate these flights. In Golden, Carson Air operates the twin-engine turboprop Beechcraft King Air 350 and Beechcraft 1900; the latter is generally assigned for bariatric patients. Carson Air also operates the turbofan Cessna Citation from its Vancouver base; however, this aircraft cannot operate from Golden as the runway length is insufficient. Consultations with Carson Air did not indicate the inability to operate the Cessna Citation at Golden Airport as a significant deficiency, as air ambulance missions can be accomplished with the Beechcraft 1900 and King Air 350.

Fixed-wing aircraft are also dispatched on an ad hoc basis by Alberta Health Services when BC Air Ambulance is unable to fulfill the mission. Golden is also located within the operating area of BC Air Ambulance's Kamloops-based helicopter with an approximate flight time of 1h10m.



Beechcraft 1900 air ambulance awaiting a ground transferred patient

¹ These values were recorded by the Airport Ambassador and may not align with operational data provided by BC Air Ambulance and STARS.

Shock Trauma Air Rescue Society

STARS provides helicopter air ambulance services into both Golden and District Hospital and Golden Airport and typically transfers critical care patients to Calgary. Golden and District Hospital's heliport is used when the organization's smaller Eurocopter BK117 is dispatched, the mission is conducted in daytime, and refuelling is not required. When the mission is conducted by the larger Airbus H145 or AgustaWestland AW139, refuelling is required, and / or the mission is conducted at night, Golden Airport is instead used. With respect to nighttime operations, Golden Airport can support the use of night-vision goggles by STARS pilots, a capability that is not currently available at Golden and District Hospital.

STARS is undertaking a fleet renewal program and introducing the Airbus H145, which is slightly larger than the Eurocopter BK117s that it is planned to replace. As will be described below, Golden and District Hospital cannot currently support the H145s that are replacing the BK117.

Golden and District Hospital Heliport and Golden Airport

Golden and District Hospital is supported by a heliport located at the northeast portion of the site, within Golden's urban area. The heliport is used by STARS for critical care flights and is limited to the organization's BK-117 helicopter. The heliport is subject to a range of limitations, including:

- Use is limited to multi-engine helicopters, preventing operations by locally based single-engine helicopters occasionally used for Search and Rescue;
- STARS' larger H145 and AW139 helicopters and BC Air Ambulance's Bell 412 are not currently permitted to operate at the heliport;
- The unavailability of fuel; and
- Only day-time operations are permitted.

RGHeliservices Consulting prepared a report in June 2019 detailing the changes required for the current heliport to accommodate STARS' new H145 under the terms of a proposed regulatory exemption by Transport Canada. These improvements included a larger safety area, moving sections of fencing, reconfiguring the hospital parking lot, and tree topping.

A subsequent report was prepared by Ground Effect Aerodrome Consulting in September 2019 that considered the development of a new heliport location at Golden and District Hospital that could serve larger helicopters such as the H145, AW139, and Bell 412. Developing a new facility northeast of the current helipad is possible but would also be subject to a range of limitations, including obstacles to the southeast that require that all flight paths be established to the north, and the inability to support single-engine helicopters without acquiring and removing residential units to the northeast. This study also did not consider provisions for helicopter refuelling, which would have to continue to occur at Golden Airport.

Based on the foregoing, supporting both fixed wing and helicopter air ambulance operations in Golden is critical to achieving the required medical level of care in the community and the surrounding region. Fixed and rotary wing air ambulances are not completely interchangeable and serve different mission profiles; accordingly, the continued availability of both Golden and District Hospital Heliport and Golden Airport is critical to maintaining the current level of service. If improvements to the existing Golden and District Hospital Heliport are made to support the new Airbus H145 being adopted by STARS, Golden Airport will continue to be required by larger helicopters such as the AW139, for nighttime operations, and for refuelling. If a new heliport is developed at Golden and District Hospital, Golden Airport will continue to be required for helicopter refuelling and fixed wing air ambulance flights.

Therefore, while upgrading the capability of Golden and District Hospital Heliport is desirable to improve overall medical care levels, such improvements will not render Golden Airport as unneeded for air ambulance operations.



Golden and District Hospital Heliport

3.5.3 Search and Rescue

Search and Rescue (SAR) encompasses the identification, extraction, and treatment of victims in a wide range of scenarios, including but not limited to mountain, avalanche, swift water, ice, and backcountry rescues. The challenging terrain and conditions of the region coupled with the extensive backcountry and adventure recreation activities creates a combination of both risk and exposure, heightening the importance of SAR operations.

Golden and District Search and Rescue

Golden and District Search and Rescue (GADSAR) is a non-profit organization based at Golden Airport. GADSAR is the busiest SAR organization outside of British Columbia's Lower Mainland, averaging 60 to 80 responses per year with a steady increase in operations over time. From consultations with GADSAR, it is understood that the organization handles a disproportionately high number of calls per year due to the number of backcountry and adventure tourism providers in the region. GADSAR responds to rescue calls on behalf of several tasking agencies, including the Royal Canadian Mounted Police, BC Emergency Health Services, Department of National Defence, and the BC Coroners Service.

GADSAR was historically located in the town prior to moving to Golden Airport. The decision to relocate was strategic in that approximately 90% of the organization's deployments require the use of aviation assets. Alpine Helicopters, located adjacent to GADSAR, is the organization's primary aviation partner. Rotary wing aircraft are used to deploy GADSAR members and to rescue victims. Golden Airport is then used to transfer patients to BC Air Ambulance, STARS, or a ground ambulance. As noted previously, select SAR helicopters cannot operate at Golden and District Hospital and instead must use Golden Airport.

Being based at Golden Airport maximizes the operational flexibility of GADSAR by enabling synergies with the fixed-wing and rotary-wing aircraft of Alpine Helicopters, BC Air Ambulance, STARS, RCAF, and other agencies. By having the capability to transfer patients from helicopters to airplanes, other helicopters, and ground ambulances, the level of care can be maximized according to patient needs.



GADSAR base (left) and helicopter operations (right)

Other Agencies

Golden Airport supports SAR activities by the Royal Canadian Air Force's 442 Transport and Rescue Squadron from 19 Wing Comox. 442 Squadron's fleet of CC-115 Buffalos and CH-149 Cormorants have used Golden Municipal Airport for refuelling during operations and training, providing a valuable SAR role throughout the region.

Parks Canada contracts commercial helicopter operators based at Golden Airport on an as-needed basis to provide backcountry SAR capabilities. Given the challenging topography of the national parks in the region, helicopters are a key part of Parks Canada's response system when ground-based transport is not possible.

Golden Airport is also used on an as-needed basis by the Royal Canadian Mounted Police's air assets and volunteer pilots flying for the Civil Air Search and Rescue Association (CASARA).



RCAF (left) and RCMP (right) aircraft at Golden Airport (Paul Quanstrom)

3.5.4 Emergency Management

Golden Airport serves an important role through the Golden and CSRD Emergency Management Program during flood events, forest fires, and pandemics. As part of the jointly administered Emergency Management Program, Golden Airport is used to transport emergency management specialists from other locations in British Columbia and Canada to the community. For example, Golden Airport is used by flood management and geotechnical experts during ice jam events that occasionally occur on the Kicking Horse River who travel by fixed wing aircraft.

3.6 Economic Impacts

Golden Airport's economic impacts can be articulated in three ways: facilitating access to the community, supporting aviation-related recreation activities, and providing support to tourism-related businesses. The economic impact of Airport tenants can also be quantitatively estimated through direct, indirect, and induced values. The Airport's economic impacts are experienced in both Golden and Area A, positioning the facility as an enabler of regional economic development.

3.6.1 Community Access

While scheduled passenger air services are not available at Golden, the Airport provides access for itinerant private and commercial aircraft. Approximately 310 aircraft visit Golden each year². Most of these itinerant users are small general aviation aircraft such as the four-seat Cessna 172 and Piper PA-28. A small number of movements are private and chartered turboprop and turbofan aircraft from destinations throughout Canada and the United States such as Halifax, New York, and San Francisco. While the number of travellers arriving in Golden by air is limited, visiting aircraft provide economic benefits that include:

- The purchase of fuel at Golden Airport;
- Visitors patronizing local restaurants, stores, and accommodation providers; and
- Travellers engaging in tourism activities such as skiing and backcountry hiking.

From consultations with tourism stakeholders, it is understood that individuals visiting Golden that arrive by the Airport generally have higher disposable incomes and assign an increased value to their time which justifies their decision to fly. While this represents a small proportion of the total visitors travelling to Golden, increasing this market segment is a future opportunity for tourism development efforts. Based on 2019 Tourism Golden data, visitor parties spend a per trip average of \$600 and \$1,250 in Golden in the summer and winter, respectively.

In addition to the role of Golden Airport in providing access to visitors, the facility is also an enabler of business travel by private and chartered aircraft. In Canada, business aviation serves several roles including enhancing employee and executive productivity and enabling staff to travel between several destinations in a condensed timeframe, thereby improving efficiency. The extent to which Golden Airport currently serves business aircraft is not known. However, the unavailability of a local airport can preclude select businesses from establishing and expanding their operations based on travel needs; therefore, the availability of Golden Airport supports the future economic prospects and diversification of the Town.



A visiting Cessna Citation (left) and Cessna 140 (right) (Paul Quanstrom)

² This value excludes itinerant helicopter operations and may include aircraft visiting for other purposes, such as air ambulance and military operations

Additionally, rotary wing operators at Golden Airport are engaged in avalanche control activities to support winter access to Golden along Highway 95 and the TCH. Helicopters are used to initiate controlled avalanches through the deployment of detonation charges. Limiting avalanche closures of both highways is critical; the economic impact of the TCH being closed is estimated at approximately \$1M per hour.

3.6.2 Aviation Recreation

Two companies based at Golden Airport are directly engaged in aviation-based recreation activities: Skydive Extreme Yeti and Kicking Horse Aviation. As described previously, Skydive Extreme Yeti provides tandem skydiving experiences and serves approximately 1,200 to 1,300 guests per year. Consultations with Skydive Extreme Yeti indicate that the business is optimistic about the growth prospects of their market. Kicking Horse Aviation has not yet commenced operations at the time of this report's preparation but is preparing to provide aerial sightseeing activities for tourists. The offerings of both companies are consistent with the adventure-based tourism proposition that is part of Golden's tourism marketing.



Tandem skydivers landing at Golden Airport (Skydive Extreme Yeti)

3.6.3 Tourism Industry Support

Golden Airport and its on-site aviation businesses provide support to regional tourism and outdoor recreation organizations. In this discussion, the aviation services that are provided at Golden Airport are secondary to the core tourism or recreation purpose of the given activity, but the given activity could not occur without the support of the associated aviation business.

As noted in the Regional Context, the importance of tourism to the regional economy can be articulated by several datapoints from Tourism Golden:

- 285 local businesses and 1,392 Full-Time Equivalent positions are engaged in the tourism sector;
- \$125 million in annual direct revenues are collected by tourism businesses;
- Tourism generated an estimated \$87.8 million in Gross Domestic Product; and
- An average of 75% of gross business revenues are generated from tourism.

Backcountry Lodges

The region surrounding Golden has the highest concentration of backcountry lodges in North America, which generate considerable tourism and economic impacts. Backcountry lodges host hiking, skiing, and mountain biking enthusiasts and provide high-end accommodations and outdoor tourism experiences. Approximately 15 backcountry lodges are in the region, which require access by helicopter for the movement of visitors, staff, supplies, and construction materials. Alpine Helicopters and Whitetooth Helicopters are extensively involved in the support of regional backcountry lodges such as Sorcerer, Battle Abbey, Purcell, and Mistaya. While the Airport is a Town asset, these lodges are located throughout Area A and the region, extending the economic benefits of the facility beyond Golden.

The total number of visitors moved by helicopter is estimated to exceed 5,000 per year. The unique attraction of backcountry lodges draws tourists from across Canada, the United States, and further abroad. The Backcountry Lodges of British Columbia Association provided economic impact data for eight lodges which are accessed by helicopter from Golden Airport. Direct economic impacts (excluding indirect and induced impacts) for the eight surveyed lodges include:

- Peak season employment of 68 staff (22 Full-Time Equivalent positions);
- Annual payroll of approximately \$550,000, most of which occurs in Golden;
- Annual spending on goods and services in Golden exceeded \$1,700,000; and
- Total revenues of over \$3,200,000.

In addition to the above-noted sample of economic impacts, visitors departing from Golden Airport typically use the Town of Golden as a base for their vacation. Before or after time spent at the lodge, visitors often stay one or more nights in town with associated spending on accommodation, recreation, dining, and other activities.

Adventure Recreation

Alpine Helicopters and Whitetooth Helicopters are engaged in several adventure recreation activities including heliskiing, biking, hiking, mountain climbing, and white-water rafting. In each of these cases, helicopters are required to bring recreationalists, guides, and their equipment to the start-point of their activity. Helicopters are advantageous as they can reach challenging terrain, including areas with no road access, mountain peaks, and rivers where road access is restricted or unavailable.

Heliskiing expeditions bring a significant economic benefit to the region, with operations based at Golden Airport and services provided by Alpine Helicopters and Whitetooth Helicopters. Data obtained from Helicat Canada provides an estimate of the economic impact heliskiing can bring to a region:

- At the provincial level, helicopter and snowcat skiing operators contribute \$326,000,000 in total economic output to the British Columbia economy and support over 41,000 annual skiers;
- 78% of heliskiing guests originate from outside of Canada representing an inflow of international tourist revenues;
- 51% of heliskiing guests extend their stay beyond the length of their ski package by an average of 3 days to explore other tourism activities. These add-on days can result in guests patronizing local accommodation providers, activity providers, and businesses in the hospitality sector; and
- 52% of heliskiing guests are returning clientele, generating recurrent economic benefits in Golden and the region.



Whitetooth Helicopters operating on a nearby mountain range

Parks Canada Support

The nearby national parks in Alberta and British Columbia are a significant tourism and recreation attraction that draw visitors from throughout Canada and abroad. Parks Canada is responsible for protecting and presenting these nationally significant examples of Canada's natural and cultural heritage. Helicopter operators at Golden Airport are contracted by Parks Canada to provide aerial services such as wildlife telemetry, the movement of trail and facility maintenance crews, the repositioning of supplies and construction materials, and the removal of waste and debris. While these logistics and support activities do not demonstrate a direct impact in terms of visitor activity, maintaining the viability of the nearby national parks is essential to Golden's tourism proposition.

Tourism Safety and Event Support

The availability of air ambulance and SAR services at Golden Airport indirectly supports tourism in the region. From stakeholder consultations, the availability of air evacuation services to hospitals with higher levels of care is one of several matters considered by tourists choosing to visit Golden. This cannot necessarily be quantified but is an intangible factor that supports the robustness of the tourism economy. From consultations with GADSAR, response volumes have increased in recent years because of increased backcountry tourism.

The availability of air ambulance and SAR services is also a criterion in attracting major extreme sporting events to the region. The Freeride World Tour is a major backcountry skiing and snowboarding event that began in 2008. Kicking Horse Mountain Resort successfully hosted the Freeride World Tour in 2018, 2019, and 2020. Part of the criteria for a venue supporting the Freeride World Tour is the availability of emergency transportation and air ambulance services; in the case of Kicking Horse Mountain Resort, this criterion is satisfied with the presence of Golden Airport. The economic benefits of hosting such an event include global media coverage, local spending by participants and attendees, and direct revenues to Kicking Horse Mountain Resort.

3.6.4 Tenant Economic Impact Estimate

Golden Airport's benefit to the region can be quantitatively estimated by studying its economic impact. Three metrics have been selected to quantify Golden Airport's annual economic benefits:

1. Employment, expressed in Full-Time Equivalent (FTE) positions;
2. Labour income, or the total dollar value of salaries and benefits; and
3. Gross Domestic Product (GDP), a macroeconomic measure of the total economic benefits of a tenant.

These metrics can be applied across three categories:

1. **Direct Impacts:** Wages, expenses, and economic contributions of on-Airport businesses, tenants, and activities. For example, wages paid to helicopter pilots.
2. **Indirect Impacts:** The wages and expenses added to the region by users of Golden Airport. For example, this may include heliskiing guests buying meals or hotel stays within the community and region.
3. **Induced Impacts:** The direct and indirect salaries and expenditures on goods and services generate income for residents of Golden and the region. The residents spend a part of this income, thereby providing income to additional persons. These recipients will in turn spend a portion of this added income. The induced impacts will continue in many successive iterations.

A survey of Airport tenants was completed to collect economic data that included: employee numbers, salaries, and expenditures in the region. An input-output analysis was completed using a matrix of multipliers produced by Statistics Canada and the Province of British Columbia that shows the value of goods and services each industry buys and sells to other industries, as well as employment and labour income multiplier values. These multiplier values are applied to the survey data to estimate indirect and induced economic impacts.

Table 3.3 summarizes the economic impact of the tenants located at Golden Airport. From the economic impact analysis, Golden Airport directly supports approximately 13 FTE positions, \$1.3M in annual labour income, and adds \$1.5M to the regional GDP. The total economic impact of Golden Airport's tenants, including indirect and induced metrics, includes the support of 27 FTE positions, \$2.5M in labour income, and \$3.0M in regional GDP contributions.

These values should be considered alongside the qualitative discussion of community access, aviation recreation, and tourism industry support provided above. While every effort has been made to capture the true economic impact of Golden Airport's tenants, chosen multipliers may underrepresent the value on-site businesses provide to sectors such as heliskiing providers and backcountry lodge operators. Beyond the estimated economic impacts shown in Table 3.3, Golden Airport supports additional FTEs, Labour Income, and GDP contributions by supporting backcountry lodges, heliskiing and mountain biking, SAR, and other tourism activities supported by the community of Golden.

Table 3.3 - Annual Estimated Tenant Economic Impact

	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Employment (FTE Positions)	13.37	8.70	4.34	26.76
Labour Income	\$1,340,633	\$734,774	\$471,171	\$2,546,578
Gross Domestic Product	\$1,480,545	\$867,111	\$623,726	\$2,971,382



Alpine Helicopters

3.7 Air Navigation System

Aircraft operate under two primary types of flight rules:

1. Instrument Flight Rules (IFR): Operating without visual reference to the surface and relying on electronic navigation aids; and
2. Visual Flight Rules (VFR): Operating with visual reference to the ground.

In the mountainous regions of Alberta and British Columbia, VFR navigation routes are designated on Visual Navigation Charts to assist pilots with pre-flight planning and identifying potentially safe routes. While current and forecast meteorological conditions may be acceptable during the flight planning process, encountering unfavourable conditions while enroute is a common occurrence necessitating an in-flight diversion to maintain safe VFR operations. Safely navigating the terrain of each navigation route can be further complicated by changing meteorological conditions; the turns of canyons and valleys can obscure conditions ahead requiring timely inflight decision making, while the narrowness and elevation of certain canyons decrease the margin of error for pilots.

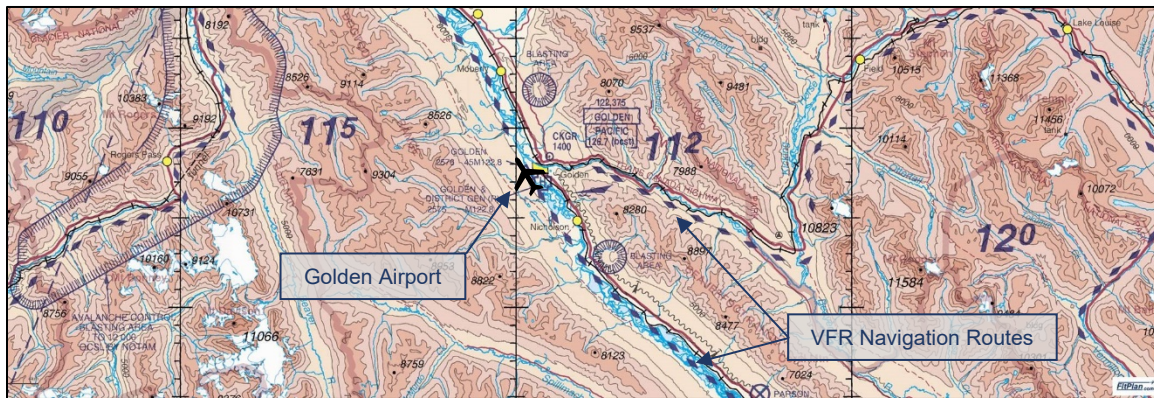
Accordingly, pilots operating in the mountainous regions of British Columbia rely on airports on their routes as interim decision points – if the conditions ahead are unsafe, the ability to land and wait for improved weather is key to aviation safety. Golden Airport is located along two VFR navigation routes as shown in Figure 3.6: an east-west route along the Trans-Canada Highway, and a north-south route along Highway 95. The TCH navigation route is one of three primary east-west VFR routes used through British Columbia, while the Highway 95 route is commonly used for pilots flying to Alaska. Golden Airport is commonly used as a diversion facility along both routes; the nearest alternate airports include:

- Revelstoke Airport, 100 km southwest;
- Invermere Airport, 110 km southeast;
- Fairmont Hot Springs Airport, 130 km southeast;
- Banff Airport (emergency and diversion use only), 100 km east; and
- Valemount Airport, 240 km northwest.

Using the example of an aircraft flying from Calgary Springbank Airport to Revelstoke Airport, Golden Airport serves as an approximate mid-point and provides the opportunity for pilots to evaluate conditions ahead and land if necessary. If inclement conditions are encountered further west along Rogers Pass forcing the aircraft to divert, the pilot can stop at Golden instead of having to fly east to Banff (emergency use only) or return to Calgary; the latter case may result in the aircraft nearing the edge of its fuel endurance.

Therefore, Golden Airport is a key diversion site for aircraft transiting the TCH and Highway 95 VFR routes and accordingly is an important facility from an aviation safety perspective. This was strongly supported during stakeholder consultations.

Figure 3.6 - VFR Navigation Routes



Transient aircraft

3.8 Airport Role

Based on the review of the Airport's businesses and tenants, current and historical activity levels, and socioeconomic impacts, the current role of the facility can be defined. Golden Municipal Airport has a three-part role in supporting:

1. **Community Social Benefits:** The Airport is an important social asset to the residents of Golden, Area A, and the broader region through its support of fixed-wing and helicopter air ambulance operations, wildfire suppression missions, Search and Rescue activities, and emergency management.
2. **Regional Economic Development:** Golden Airport's businesses and tenants provide direct, indirect, and induced economic benefits to the region. The Airport is critical to the existence of many parts of the local tourism sector and facilitates air access into and out of the community and region.
3. **Air Navigation System:** As part of Canada's air navigation system and given its location on two VFR navigation routes, Golden Airport is an important planned and emergency landing location.

Successfully meeting and enhancing each of these needs must be accomplished in a manner that is financially sustainable and responsible to the ratepayers of Golden and Area A, who are responsible for funding the operation and development of the Airport. While the Airport is the responsibility of the Town of Golden, the facility functions as a regional asset.

Figure 3.7 - Airport Role



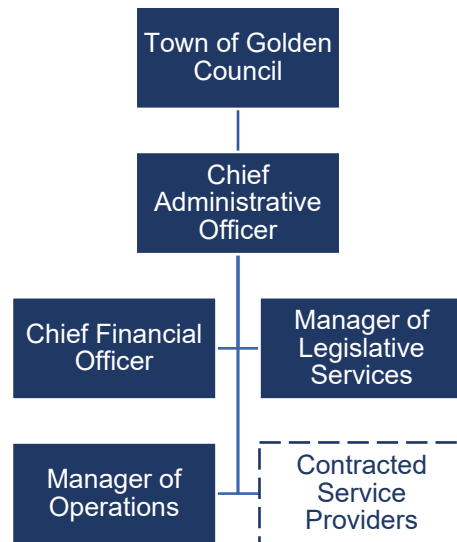
4 ADMINISTRATIVE AND REGULATORY REVIEW

4.1 Airport Governance

Governance is defined as the exercise of authority, direction, and control of an organization to ensure a defined purpose is achieved. In terms of an airport, a governance structure is further defined by how decisions affecting the development and operation of the facility are made and who provides the required financial support.

Golden Airport is wholly owned by the Town of Golden. An organization chart illustrating the key management and operational roles for the Airport is shown in Figure 4.1.

Figure 4.1 - Airport Organizational Chart



The Town of Golden Council is ultimately responsible for all decision-making with support from the recommendations of the Chief Administrative Officer. As noted previously, determining the future viability of Golden Airport is a priority for the current Town Council. While the oversight of Golden Airport by Town Council is a typical governance structure employed by many municipalities that own airports across Canada, challenges have been identified with the current governance structure, including but not limited to:

- The CSRD is not involved in the governance of Golden Airport such as planning and decision-making, despite financially contributing to the facility on an annual basis;
- Town Councillors, while possessing a wide range of skills and knowledge, do not necessarily have expertise in airport operations, development, and management;
- Airport matters are discussed on an ad hoc basis when a decision or action is required, as opposed to being a regular item for updates and consideration; and
- No mechanism exists for the formal involvement of Airport tenants, businesses, and stakeholders beyond making delegations or representations to Council.

4.2 Administration

The Airport is administered by three Town of Golden Staff, with the Airport being one of many responsibilities assigned to each position:

- **Chief Administrative Officer (CAO):** Golden Airport is managed by the Town CAO who is responsible for overseeing all aspects of the Airport, including planning, maintenance, finances, contracted services, and other key functions. The CAO reports to Town Council and makes recommendations on priorities and the direction of the Airport.
- **Chief Financial Officer (CFO):** The CFO is responsible for the Airport financial statements and its operating and capital budgets.
- **Manager of Legislative Services:** The Manager of Legislative Services oversees all lease and rental agreements at Golden Airport. This position's role includes negotiating and maintaining leasehold lot agreements, terminal building office rentals, and conducting comparative reviews of appropriate lease and rental fees every five years.

While the administration of Golden Airport through the CAO is generally effective, deficiencies with this arrangement include:

- The CAO is responsible for the overall management of the operations of the Town, ensuring that the policies, programs, and other directions of Council are implemented. The amount of time that the CAO can dedicate to Golden Airport is challenged by the large number of competing priorities of equal or greater importance;
- The CAO position requires an individual with extensive experience in municipal administration, but not necessarily aviation or airport expertise;
- The point of contact for current and prospective tenants, stakeholders, aircraft operators is not immediately clear; and
- Golden Airport lacks a dedicated “champion” that would primarily be responsible for the representation of the facility in Town decision-making, daily administration tasks, inter-stakeholder relations (e.g. interfacing with Tourism Golden and Golden Community Co-op), business development, and other crucial roles.

4.3 Operations

The operation of the Airport is accomplished by the Town Operations and Public Works Department, as well as contracted service providers noted below:

- **Manager of Operations:** Routine maintenance such as grass cutting and snow removal is undertaken by the Operations and Public Works Department under the direction of the Manager of Operations. Equipment necessary for routine airport maintenance is shared with the Town.
- **Contracted Service Providers:** Specialized third-party service providers are contracted by the Town of Golden on an as-needed basis to accomplish tasks such as pavement repairs; line painting; construction and general contracting; vegetation and wildlife management; and alarm and security services. The design and maintenance of the Airport's private Instrument Flight Procedure is also completed by a contracted provider. The “Airport Ambassador” role of providing on-site assistance, responding to email and phone inquiries, directing aircraft to parking, and tracking aircraft movements is also privately contracted.

Select operational tasks such as crack sealing, line painting, and Instrument Flight Procedure design are generally performed to a high standard and meet Golden Airport's needs. Nonetheless, research, analysis, and stakeholder consultations identified select operational deficiencies:

- The Operations and Public Works Department is not dedicated to the Airport and staff are assigned to maintenance assignments when available, depending on other operational requirements within the Town. The Town does not operate a dedicated airport maintenance facility at the Airport. These factors can lead to maintenance and operation tasks being delayed at the Airport, most significantly with winter snow clearing;
- Up-to-date runway condition information is generally not available. Runway surface condition reporting during the winter months is not completed with standard testing equipment and pilots operating at Golden Airport have encountered unexpected contamination (e.g. icing) on landing. The absence of detailed runway surface condition reporting can lead to reduced levels of service for air ambulance, corporate, and other aircraft operators;
- Winter maintenance at the facility is completed by Town Staff. As per the 2017 Snow Clearing and Sanding Policy, Golden Airport is the lowest priority asset for clearing within the Town. This can temporarily restrict operations by delaying aircraft arrivals and departures and was noted as a deficiency by multiple stakeholders.

4.4 Regulatory Requirements

Aerodromes in Canada are classified as either Registered Aerodromes or Certified Airports. Discussion on these designations and their relevance to the current and future operation of Golden Airport is provided herein.

4.4.1 Registered Aerodrome

A registered aerodrome is defined by Transport Canada within the Aeronautics Act as:

Any area of land, water (including the frozen surface thereof) or other supporting surface used, designed, prepared, equipped or set apart for use either in whole or in part for the arrival, departure, movement or servicing of aircraft and includes any buildings, installations and equipment situated thereon or associated therewith.

Requirements for Registered Aerodromes include the provision of:

- A wind direction indicator (illuminated if used at night);
- Warning notices related to low-flying or taxiing aircraft in the vicinity of the aerodrome that are likely to be hazardous to pedestrian or vehicular traffic;
- Runway/taxiway edge lighting or markers if used at night; and
- Aerodrome information to Transport Canada for publication in the Canada Flight Supplement, Canada Air Pilot, and aeronautical charts.

4.4.2 Certified Airport

A Certified Airport is an aerodrome for which an Airport Certificate has been issued by the Minister of Transport confirming that all aerodrome facilities meet prescribed infrastructure and safety standards. These standards are identified in Transport Canada's document TP312E – Aerodrome Standards and Recommended Practices. To obtain and maintain this certificate, an airport must also possess a series of operational plans that address matters such as snow removal, emergency responses, safety management, and wildlife control.

An aerodrome is required to be certified if:

- It supports scheduled passenger air services;
- It is in a built-up area; or
- Its certification is deemed to be in the public interest by the Minister of Transport.

4.4.3 Impacts and Analysis

Airport certification entails compliance with numerous requirements imposed through the Canadian Aviation Regulations (CARs) and TP312 when compared to Registered Aerodromes. A review of the site context indicates that numerous obstacles likely infringe on the Obstacle Limitation Surfaces required through TP312, including the rail corridor, Fisher Road, the sewage lift station, and an aggregate stockpile.

In addition to the compliance of the physical infrastructure and airspace of the Airport with TP312, significant organizational and operational changes would be required to maintain certification, at a considerable cost to the Town. Operational procedures would have to be developed and followed, including an Emergency Response Plan, Wildlife Management Plan, Winter Maintenance Plan, and a Safety Management System. Further, numerous recurring obligations are imposed with certification, including the need to complete regular quality assurance and compliance audits.

The pursuit and maintenance of certification would require a significant upfront capital investment to identify and rectify infrastructure deficiencies and prepare manuals and procedures, and would require the creation of additional employment positions at the Airport to support administration activities, regulatory compliance, safety reporting, and other tasks.

Golden Airport's current operation as a Registered Aerodrome results in a less onerous regulatory environment that aligns with the resources the Town can dedicate to the facility. The primary opportunity that is precluded by the lack of certification is scheduled air carrier service; as will be described later in the report, this is not identified as a significant opportunity. Accordingly, the continued operation of Golden Airport as a Registered Aerodrome is recommended.

5 AIRPORT INFRASTRUCTURE ASSESSMENT

5.1 Methodology

The airport infrastructure assessment included two primary steps: the review of previous studies and a visual inspection completed by the project time while at Golden Airport. The intent of this review was to obtain a current understanding of the condition of the Airport infrastructure. Except where otherwise noted, the condition findings documented below are based on the professional opinion of HM Aero staff. The following studies were reviewed:

- EBA Engineering Consultants Ltd. (2009, February). *Land Use Plan Brief for the Golden Airport*. Kelowna, BC.
- EBA, A Tetra Tech Company. (2011, July). *Business Case Selective Airport Initiatives – Golden Airport*. Calgary, AB.
- WSP Canada Inc. (2015, August). *Pavement Condition Assessment at the Golden Municipal Airport*. Calgary, AB.
- Cascade Facilities Management Consultants Ltd. (2016, February). *Town of Golden Airport Terminal – Facility Condition Assessment*. Langley, BC.

HM Aero completed a visual pavement condition assessment of Runway 14-32; Taxiways A, B, and C; and Aprons I, II, and III. The purpose of the visual inspection was to provide an objective and rational basis for determining maintenance and repair needs. It is important to note that a visual inspection does not measure the structural capacity or condition of the pavement, nor does it provide a measurement of skid resistance or roughness. The pavement condition assessment completed at Golden Airport followed the ASTM 5340-12 Airport Pavement Condition Index Survey methodology and was completed over three phases:

1. **Preparation:** Prior to visiting the Airport, the above-noted airside surfaces were divided into 15 sample units for inspection and documentation purposes.
2. **Inspection:** Exposed pavement distresses were identified and documented by the project team. Using a hand odometer wheel and ruler, data on each distress was collected that included its location, type, severity, frequency, and other relevant information. Each distress was also photographed. The inspection was completed on July 8, 2020. Weather conditions were predominantly sunny with a brief period of precipitation and temperatures around 20° at the time of inspection.
3. **Assessment:** The project team's licensed professional engineer reviewed the images and data sheets to assign a condition rating to each sample unit. Each airfield element was assigned a condition rating based on the summation of the sample units.

The project team also completed visual inspections of the Airport's land use context and constraints, visual navigation aids, terminal building, groundside system, and development lots. These inspections were completed between July 6 and 11, 2020 and were limited to the identification of visible deficiencies to support generalized condition determinations.

In addition to the review of existing studies and completion of visual inspections, the stakeholder consultation program supported the infrastructure assessment. Town Staff, tenants, aircraft operators, and other individuals with knowledge of Golden Airport were interviewed to identify asset conditions and deficiencies.

5.2 Airside System

In Canada, the characteristics of airside systems are defined by TP312 – Aerodrome Standards and Recommended Practices. TP312 5th Edition categorizes aircraft based on their specifications and performance characteristics through Aircraft Group Numbers (AGNs). The AGN is determined for each part of the airside system in accordance with the applicable design aircraft, and the airside infrastructure element must meet the minimum design characteristics of the specified AGN. Registered Aerodromes such as Golden Airport are not required to meet TP312 standards, although achieving compliance where possible is encouraged.

To clarify the current regulations, Transport Canada’s Advisory Circular (AC) No. 602-005 was published describing the operation of aircraft types that have an AGN higher than that assigned to runways and taxiways. The AC notes that larger aircraft operations may occur, and the aerodrome operator should be contacted prior to the flight to ascertain the ability to conduct safe operations. Ultimately, it is the pilot’s responsibility to decide whether landing or departing is safe; per CAR 602.96 (2):

Before... operating an aircraft at an aerodrome, the pilot-in-command of the aircraft shall be satisfied that (b) the aerodrome is suitable for the intended operation.

5.2.1 Runway

The specifications of Runway 14-32 are provided in Table 5.1. Runway 14-32 supports numerous fixed wing and rotary wing aircraft used in air ambulance, military, corporate, general aviation, and regional operations. A review of aircraft movement data from 2016 to 2019 indicates that Runway 14-32 supports a wide range of corporate turboprop aircraft movements from aircraft such as the Dassault Falcon 50 and 900EX; Bombardier Challenger 350; and Embraer Phenom 300 and Legacy 450. Historical photos also show the use of the runway for regional airliners such as the De Havilland Canada Dash 8-100 (37 seats), Convair 580 (50 seats), and Fokker F27 (50 seats).

Based on a preliminary review of Golden Airport’s infrastructure and the surrounding obstacle environment, Runway 14-32 is identified as an AGN I, Non-Instrument (NI) equivalent facility per TP312 5th Edition. The classification of AGN I-NI is primarily due to the features surrounding the site that potentially conflict with the TP312 Obstacle Limitation Surfaces of higher AGNs. However, the AGN I-NI equivalent classification of Runway 14-32 does not preclude operations by aircraft with higher AGNs, as this is done at the pilot’s discretion and commonly occurs at the Airport.

Table 5.1 - Runway Specifications

	Runway 14-32
Length	4,528 ft. (1,380 m)
Width	75 ft. (23 m)
Surface	Asphalt
Equivalent Aircraft Group Number	I-NI
Maximum Outer Main Gear Wheel Span	6.0 m
Condition	Poor / Fair



Runway 14-32

Runway Length

Runway 14-32 is 4,528 ft. (1,380 m) in length and based on stakeholder consultations, is reported to meet the needs of the current users of Golden Airport. The ability for aircraft to operate from Runway 14-32 is a combination of numerous factors such as the Take Off Distance Available (TODA), Landing Distance Available (LDA), the aircraft's performance characteristics, surface condition (e.g. contamination from rain, snow, and ice), and operator-specific requirements.

Aircraft performance data was obtained for several turbofan and turboprop aircraft commonly used by Canadian charter and corporate operators. This data is based on manufacturer's advertised values and does not account for actual operational performance calculations. As shown in Table 5.2, a wide range of aircraft types can operate at Golden Airport with or without performance restrictions. As noted previously, the aircraft's TP312 5th Edition AGN does not preclude operations so long as the pilot can ascertain the safety of the flight and is satisfied that the airport is adequate for the intended operation.

Table 5.2 - Aircraft Performance Characteristics

	Advertised Take-Off Distance	Advertised Landing Distance	Aircraft Group Number
Cessna Citation XLS+	3,560 ft.	3,180 ft.	II
Embraer Legacy 450	3,907 ft.	2,090 ft.	II
Pilatus PC-12 NGX	2,485 ft.	2,170 ft.	II
Beechcraft King Air 350	3,300 ft.	2,692 ft.	II
Beechcraft 1900D	3,813 ft.	2,800 ft.	II
De Havilland Canada Dash 8-300	3,870 ft.	3,415 ft.	IIIA

While the extension of Runway 14-32 would enable aircraft with more restrictive performance requirements to operate at Golden Airport, stakeholder consultations and research by the project team did not identify a specific aircraft type or an opportunity that is not being realized on the basis of the current length of Runway 14-32. Any justification for the extension of Runway 14-32 should be linked to a defined operational need and business case as opposed to a “build it and they will come” approach as:

- The lands to the north and south of Runway 14-32 are constrained by numerous structures which may require relocation, such as the sewage lift station, thereby increasing project costs;
- The obstacle environment to the north and south (e.g. power lines, Fisher Road) may require the threshold of an extended Runway 14-32 to be displaced to ensure safe clearances over obstacles can be maintained. This would limit the improvement in the Landing Distance Available;
- There are numerous competing priorities for municipal capital funding; and
- The extension of Runway 14-32 will increase the operational funding requirements of the Town (e.g. snow clearing, maintenance) as well as lifecycle rehabilitation costs.

While the need for a runway extension has not been identified, the provision of year-round, reliable maintenance for Runway 14-32 is an important consideration to maintain acceptable levels of airport availability. As noted in the Administrative Review, delays in snow and ice removal from the runway can lead to reduced takeoff and landing performance and poor braking action. Aircraft takeoff and landing distances increase on contaminated surfaces; an aircraft that could operate at Golden with dry pavement conditions may not be able to do so on a pavement surface that is contaminated with snow and/or ice.

Runway Width

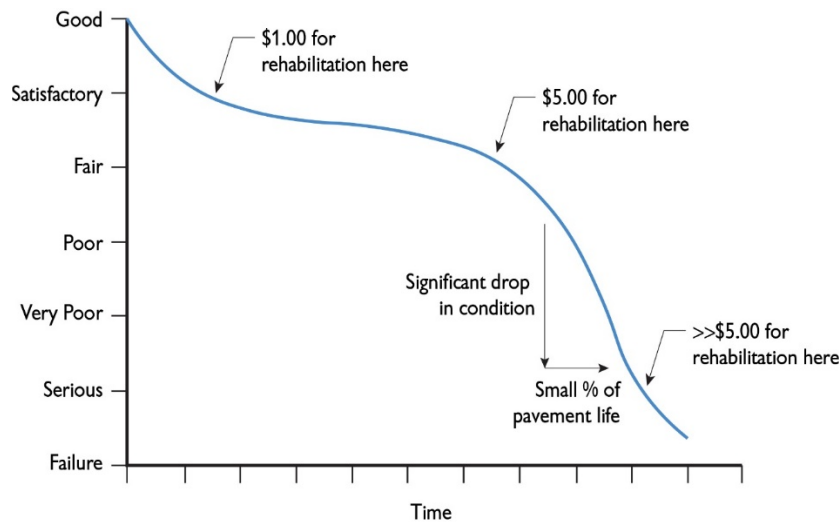
Per TP312 5th Edition, the 23 m width of Runway 14-32 is sufficient for aircraft with outer main gear wheel spans (OMGWS) of up to 6.0 m. The aircraft that operate at Golden, such as the Dassault Falcon 900, Beechcraft 1900, and King Air, generally have OMGWS under 6.0 m. The OMGWS of the CC-115 Buffalo (9 m) and regional aircraft such as the Dash 8-300 (8 m) exceeds the 6.0 m value of TP312. As noted previously, the runway width does not preclude occasional operations by these larger aircraft if pilots are satisfied as to their ability to conduct safe operations. Accordingly, the width of Runway 14-32 was not identified as a deficiency by the project team or through stakeholder consultations.

Condition Assessment

Runway 14-32 was originally constructed in 1974 with subsequent extensions 1991 and 1993. The runway's structure consists of a 50 mm to 75 mm asphalt surface course, 150 mm granular base course, and a silty sand subbase that ranges in depth from 600 to 1,300 mm.

The 2015 airfield condition assessment concluded that Runway 14-32 was in poor condition and was due for rehabilitation. However, the condition rating was noted to be primarily due to the age of the runway (over 25 years old) and the typical deterioration of pavement over time, as opposed to evidence of structural defects. Figure 5.1 illustrates how a typical airfield pavement deteriorates over time and the relative cost of rehabilitation throughout its life cycle.

Figure 5.1 - Typical Airfield Pavement Condition Life Cycle (FAA)



Ideally, pavements are rehabilitated as soon as they begin to display evidence of distress. Addressing pavements that are in fair to satisfactory condition allows for a cost-effective rehabilitation strategy, such as a simple milling and paving operation to renew the pavement structure. This type of rehabilitation is a fraction of the cost of rebuilding the pavement structure, which is often required once serious degradation or structural failure has occurred. The development of structural defects is a normal part of the airfield pavement aging process.

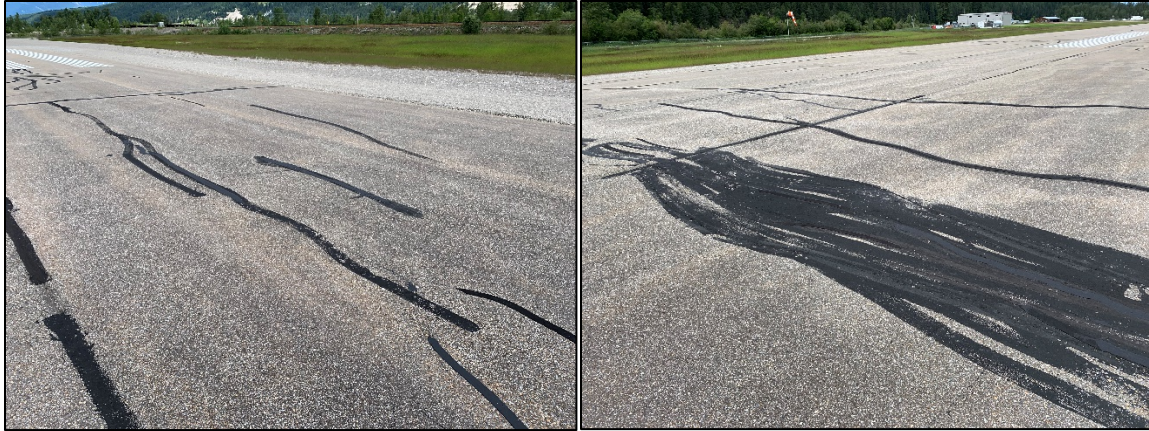
Runway 14-32 has been written off in the Town's Tangible Capital Asset accounting system. Based on HM Aero's July 2020 assessment, Runway 14-32 is deemed to be in poor to fair condition with an estimated remaining service life of 5 to 7 years before major rehabilitation is required. The Town of Golden has completed crack sealing on an annual basis at the Airport, and crack sealing efforts on Runway 14-32 appear to have successfully extended the service life of the asset. The estimated remaining service life assumes that crack sealing efforts will continue.

Transverse and longitudinal discrete cracking was observed throughout Runway 14-32. Most of the cracks that were identified by the project team were sealed through the Town's preventative maintenance program, which is the primary treatment technique for this type of surface defect. In more advanced cases, localized patching may be required. The frequency of transverse cracking was irregular and observed to be between 20 m and 110 m. There are many causes of discrete cracking including, but not limited to the:

- Contraction of the pavement structure;
- Opening of joints between paving lanes;
- Subgrade settlement, frost heaving, or other moisture related volume changes; and
- Asphalt shrinkage or a decrease in volume over time.

In addition to discrete cracking, there were several locations with signs of alligator (or fatigue) cracking. This type of pavement distress is typically located along aircraft wheel paths and consists of a series of small polygons with typical spacing of 50 mm to 300 mm. There are several causes of alligator cracking, including:

- Over-compaction during the placement of the base course;
- Fatigue due to a high number of load repetitions, such as aircraft movements; and
- Insufficient bearing strength of the underlying soils.



Runway 14-32: Longitudinal (left) and transverse (right) cracking

Summary

- The length of Runway 14-32 is generally adequate for current aircraft types that use the Airport and a specific deficiency to justify its extension has not been identified;
- Year-round, reliable maintenance and snow-clearing for Runway 14-32 is an important consideration to maintain acceptable levels of airport availability;
- The width of Runway 14-32 has not been identified as a deficiency; and
- Runway 14-32 is deemed to be in poor to fair condition with an estimated remaining service life of 5 to 7 years before rehabilitation is required. This study assumes that the rehabilitation will include milling the existing pavement, localized crack repairs, and repaving – the actual rehabilitation strategy will be dependent on a geotechnical study.

5.2.2 Taxiways

Three taxiways are in operation at Golden Airport, as identified Table 5.3. The current taxiways provide a level of service that generally exceeds the requirements of Airport users and tenants, given the types and volumes of traffic experienced. The need for additional taxiways or widening projects on existing taxiways was not identified during stakeholder consultations. Taxiway C is limited by its width to general aviation aircraft such as the Cessna 172 and serves Apron III which is primarily used for helicopter operations (GADSAR, BC Wildfire Suppression, and Alpine Helicopters). Given the poor condition of Taxiway C and availability of Taxiways A and B, Taxiway C could be decommissioned to decrease operational and rehabilitation costs to the Town.

Table 5.3 - Taxiway Specifications

	A	B	C
Length	245 ft. (75 m)		
Width	49 ft. (15 m)	46 ft. (14 m)	30 ft. (9 m)
Surface	Asphalt		
Maximum Outer Main Gear Wheel Span	9.0 m	6.0 m	4.5 m
Condition (July 2020)	Fair	Fair	Poor

Condition Assessment

Taxiway A

As of July 2020, Taxiway A was observed to be in fair condition with an estimated remaining service life of 7 to 10 years. Minor discrete cracking was observed throughout the pavement surface, including 1 mm to 2 mm unsealed cracks near the runway / taxiway intersection. Minor weathering and alligator cracking was also observed near the Runway 14-32 holding position and intersection.



Taxiway A: Partially sealed transverse crack (left) and longitudinal cracking (right)

Taxiway B

Taxiway B was observed to be in fair condition with an estimated remaining service life of 7 to 10 years. Mild surface weathering was identified between the holding position and Runway 14-32. Alligator cracking was observed west of the holding position and north of the taxiway centreline. A 50 ft. partially sealed transverse crack was also identified.



Taxiway B: Pavement weathering (left) and sealed cracks along the interface with Apron II (right)

Taxiway C

Taxiway C was observed to be in poor condition and has likely exceeded its useful service life, although no signs of structural failure or Foreign Object Debris (FOD) were identified. Most cracks that were previously sealed show signs of reopening. An area of vegetation growth was observed east of the taxiway centreline.



Taxiway C: Longitudinal cracking along the taxiway edges

Summary

- Taxiways A, B, and C provide a level of service that generally exceeds the requirements of Airport users and tenants;
- Taxiway C could be decommissioned to decrease operational and rehabilitation costs;
- Taxiways A and B were observed to be in fair condition with an estimated remaining service life of 7 to 10 years; and
- Taxiway C was observed to be in poor condition and has likely exceeded its useful service life.

5.2.3 Aprons

Three aprons are used for aircraft parking, fuelling, loading and unloading, and manoeuvring. Tie-down facilities to support itinerant aircraft are provided in a grassed area between Aprons I and II. There may be opportunities to reconfigure the tie-down area and the connection between Aprons I and II to improve aircraft parking, provide space for additional development lots, and decrease operational and rehabilitation costs.

Table 5.4 - Apron Specifications

	I	II	III
Area	5,428 m ²	4,276 m ²	4,634 m ²
Surface	Asphalt		
Condition (July 2020)	Fair	Poor	Very Poor



Apron I (left) and Apron II (right)

Condition Assessment

Apron I

As of July 2020, Apron I was observed to be in fair condition with an estimated remaining service life of 5 to 7 years. While a significant number of surface distresses were recorded on Apron I, the majority appear to be low severity and are expected to be encountered due to the age of the asset. Observed distresses included:

- Low severity weathering along the apron edges and corners;
- Low severity alligator cracking in the southwest, southeast, and western sides of the apron;
- Minor ponding adjacent to the aircraft tie-down area;
- Vegetation growth along a sealed crack on the west side of the apron; and
- Pavement deterioration resulting from a possible fuel spill(s) adjacent to the fuelling area.



Apron I: Low severity unsealed cracks (left) and weathering (right)

Apron II

Apron II was observed to be in poor condition in July 2020 with an estimated remaining service life of 2 to 5 years. Observed distresses included:

- Surface breakup, which is typically an indication that the pavement is nearing the end of its useful service life and may present a FOD risk if not repaired;
- Localized pavement breakup over a drainage culvert from the aircraft tie-down area to the infield, including loose asphalt and spalling which presents a FOD risk;
- Weathering;
- Vegetation growth;
- Minor ponding along the interface of Aprons I and II; and
- Previously sealed cracks that have reopened.



Apron II: Surface distresses (top), culvert pavement breakup (bottom, left) and vegetation growth (bottom, right)

Apron III

Apron III was observed to be in very poor condition and has reached the end of its useful service life. Further pavement failure and FOD risks may occur. Observed distresses included:

- Pavement settling, undulations and ponding;
- High severity alligator cracking;
- Vegetation growth and weathering throughout the Apron; and
- Minor unsealed cracks.



Apron III: Vegetation growth (left) and high severity alligator cracking (right)

Summary

- Apron I was observed to be in fair condition with an estimated remaining service life of 5 to 7 years;
- Apron II was observed to be in poor condition with an estimated remaining service life of 2 to 5 years; and
- Apron III was observed to be in very poor condition and has reached the end of its useful service life.

5.2.4 Visual Navigation Aids and Lighting

Visual navigation aids supporting aircraft operations at Golden Airport include:

- Two Wind Direction Indicators (WDIs);
- Runway and taxiway paint markings; and
- Unilluminated signs at each taxiway-runway holding position, several of which are damaged and difficult to read due to their size.

Golden Airport is not equipped with lighting to support nighttime aircraft operations; however, STARS can operate their helicopters (e.g. H145, AW139) as their pilots are equipped with night-vision goggles. The inability to support nighttime operations limits the overall availability of Golden Airport and may result in aircraft operators selecting alternative facilities such as Fairmont Hot Springs Airport. The challenge of operating a daytime only airport is accentuated during the winter months when the limited hours of daylight combined with inclement weather further decreases availability.

Based on CAR 301.07, the minimum infrastructure required for Golden Airport to support nighttime operations as a Registered Aerodrome would be:

- White runway edge lights;
- Blue edge lights for the taxiways and aprons to be used at night; and
- An illuminated WDI.

Golden Airport is not required to achieve compliance with TP312, which addresses Certified Airports. However, additional infrastructure could be provided to TP312 standards to achieve a higher level of service and improved safety, including:

- Medium intensity runway edge, threshold, and end lights;
- Precision Approach Path Indicators (PAPIs) at each threshold to provide a visual reference for pilots as they descend to the runway;
- Omnidirectional Approach Lighting Systems (ODALs);
- An Aircraft Radio Control of Aerodrome Lighting (ARCAL) system, which enables pilots to activate the lighting system via their radios;
- Illuminated airside guidance signs;
- Apron floodlighting; and
- Standby / emergency power systems.

An additional requirement for Certified Airports through TP312 is off-site hazard lights to delineate the safe flying area for night operations given the presence of hazardous terrain. These hazard lights, while not required for Registered Aerodromes, represent a key enhancement to flight safety if nighttime operations are to be considered for Golden.

The decision to support nighttime operations through aerodrome lighting carries both the upfront capital costs of installation and ongoing operational costs and responsibilities. If the CFS is amended to denote that Golden Airport is available for nighttime operations, an increased responsibility is conferred to the Town to monitor the usability of the system and complete maintenance on an as-needed basis. The Town would also be responsible for reporting lighting outages through Notices to Airmen (NOTAMs).

It is anticipated that the availability of Golden Airport for nighttime operations would primarily be beneficial for air ambulance, charter, and corporate operators. Aircraft travelling along the VFR navigation routes generally do not operate at night given the need to maintain visual reference to the mountainous terrain in the area. Data was not available to the project team on the number of aircraft that did not operate at Golden due to its daytime only status; therefore, the improvement that would be realized with lighting cannot be quantified. The justification for lighting, if pursued, would be to improve the level of service for air ambulance providers or to remove a disincentive to charter and corporate traffic.

Summary

- Existing visual navigation aids are generally adequate for the needs of current Airport users and tenants, with minor repairs required;
- Golden Airport is unlit and is therefore limited to daytime aircraft operations;
- Lighting would improve the level of service for air ambulance providers and remove a disincentive to charter and corporate traffic. However, the operations that do not occur at Golden on account of its daytime status cannot be estimated through this study; and
- Providing aerodrome lighting carries both upfront capital costs and ongoing operational costs and responsibilities.



Airfield signage (top), pavement markings (bottom left), and a WDI (bottom right)

5.3 Airport Support Services

5.3.1 Terminal Building

The Town of Golden maintains a single-storey terminal which was built in 1992. Three offices in the terminal building are rented on an annual basis by the NAV CANADA contract weather station, Skydive Extreme Yeti, and East Kootenay Fuel Sales. The terminal building is also used by pilots for flight planning and crew rest. The terminal building provides amenities typical of municipal airports; however, it is not equipped to support passenger processing functions typical of commercial airports (e.g. check-in, security screening, baggage handling, etc.).

The terminal building is adequate to support the current types and volume of traffic experienced at Golden Airport and deficiencies were not identified through the stakeholder consultation program. The aviation opportunities considered later in this report are also not expected to require significant improvements to the terminal building. Should a prospective airport user require modifications or improvements to the facility, this can be considered and addressed on an as-required basis.



Terminal Building western façade (left) and eastern façade (right)

Condition Assessment

The 2016 Facility Condition Assessment by Cascade Facilities Management Consultants concluded that the overall condition of the building was good and estimated the remaining lifespan of the facility to be at least 20 years (2036 or later).

A visual review building envelope and interior was completed by HM Aero in July 2020, excluding the crawlspace, foundation, electrical, and mechanical systems. The project team generally concurs with the findings of the 2016 Facility Condition Assessment and rates the condition of the terminal building as good. Findings requiring action are documented below, most of which are items that have not been addressed since the 2016 report was published.

Through continued maintenance and upkeep by the Town of Golden, the lifespan of the terminal building can be extended, and the functionality of the asset maintained. In addition to the recommended terminal improvements documented below, both the interior and exterior of the terminal would benefit from aesthetic updates to improve its image as an entryway to Golden. Minor improvements to the terminal building in the short term could include:

- The removal of old aeronautical publications and notices;
- Refreshed painting and exterior improvements;
- The installation of new signage, branding, and up-to-date contact information; and
- Improved landscaping and the removal of weeds around the building.

Summary

- The terminal building provides amenities typical of municipal airports and is adequate to support the current types and volume of traffic experienced at Golden Airport;
- The overall condition of the building is observed to be good and its remaining lifespan is estimated to be 2036 or later; and
- Continued maintenance will preserve the lifespan of the terminal and modest improvements can improve its image as an entryway to Golden.

Western Façade

Partially unsealed openings in building wall



Crawlspace vent improperly covered



Northern Façade

Exposed foundation insulation



Exposed wiring



Buckling and surface condition of metal cladding



Eastern Façade

Exposed foundation insulation



Unsealed door stoop



Door hinge is rusting and exposed



Crawlspace vent improperly covered



Southern Façade

Unsealed door stoop



Weathered entryway railing and roof supports



5.3.2 Meteorological Services

NAV CANADA maintains a privately contracted weather observation station at Golden Airport. The weather station includes a compound with measuring equipment and an office in the terminal. The meteorological compound is also used by Environment and Climate Change Canada for weather recording equipment. Weather information is provided to pilots through NAV CANADA's Aviation Weather Website (AWWS). Three types of weather observations are available at Golden Airport:

- **Surface Weather Observations (METARs):** During staffed hours, hourly weather observations are reported. METARs provide a full range of observations such as ceiling conditions, precipitation, density altitude, and visibility.
- **Limited Weather Information System (LWIS):** During unstaffed hours, an automated LWIS reports the wind conditions, altimeter setting, temperature, and dew point.
- **Weather Cameras:** Two cameras provide a view of conditions to the north and south.

No forecasting services are provided at Golden Airport. The availability of on-site weather observers is important due to the highly variable conditions in the valleys surrounding Golden; measurements by automatic equipment at the Airport often differ from those experienced in the vicinity of the Airport and in the nearby mountain passes and the Columbia Valley. While the combination of METARs and LWIS provide 24-hour coverage and enable the use of the Instrument Flight Procedures, aircraft operators identified the limited content of LWIS observations as a deficiency when preparing flight plans prior to departing for Golden. However, Automated Weather Observation Systems are subject to the above-noted limitations in that their measuring equipment may not offer an accurate report of the weather conditions in the vicinity.

Summary

- NAV CANADA's contracted weather observation station serves an important role due to the highly variable conditions experienced in the surrounding region; and
- Future improvements are at NAV CANADA's discretion and cost.



Meteorological observation compound

5.3.3 Instrument Flight Procedures

Instrument Flight Procedures (IFPs) enable aircraft to approach Golden during IFR conditions, while operating without visual reference to the ground during most of the flight.

Instrument Approach Procedures

Aircraft arriving at Golden Airport are supported by Instrument Approach Procedures (IAPs), which are generally described by their Minimum Decision Altitude (MDA), or the lowest height above ground that a pilot can descend before they are required to establish visual reference to the airport, and Minimum Visibility. An IAP with a lower MDA and Minimum Visibility offers better airport availability as aircraft can land in increasingly restrictive weather conditions.

Golden Airport's IAPs are Global Navigation Satellite System (GNSS) procedures. Two IAPs are maintained by NAV CANADA and are published in the Canada Air Pilot (CAP) for use by properly equipped aircraft and qualified pilots:

- **RNAV (GNSS) RWY 14:** Supports aircraft arriving from the north on Runway 14 and has an MDA of approximately 4,000 ft. AGL.
- **RNAV (GNSS) A:** Supports aircraft arriving from the south to Runway 32 with an MDA of approximately 2,000 ft. AGL.

In addition to the two CAP IAPs, the Town of Golden maintains a private IAP in the Restricted Canada Air Pilot (RCAP):

- **RNAV (GNSS) B:** Supports aircraft arriving on Runway 32 with an MDA of approximately 1,500 ft. AGL. The RNAV B approach is available to trained pilots and aircraft that can complete a missed approach with a higher climb gradient.

Instrument Departure Procedures

Golden Airport is not supported by a Standard Instrument Departure. Instead, heading and altitude selection following takeoff are at the discretion of the pilot. This has been identified as a deficiency by air ambulance service providers.

Summary

- Golden's IAPs are important assets which enable access in IFR conditions;
- The Airport availability provided by the IAPs is limited by the high Minimum Decision Altitudes because of the surrounding terrain; and
- Standard Instrument Departure procedures may offer an improvement in Airport availability.

5.3.4 Aircraft Support Services

East Kootenay Fuel Sales is responsible for selling aviation fuel, including Jet-A and 100 Low Lead (100 LL). Fuel is dispensed from two above-ground tanks at Apron I and is available 24-hours per day, with payment in-person or by telephone. The availability of both fuel types is a significant strength of Golden Airport. A challenge for aircraft operations at Golden is the lack of services in the event of aircraft being contaminated with snow or ice. Hangars are not available for use by itinerant aircraft. De-icing fluids and equipment are also not available.

Summary

- The provision of aviation fuel by a private third-party is a strategic asset of Golden Airport; and
- Limited services are available for itinerant aircraft and winter operations.



Aircraft fuel tanks (left) and tie-down area (right)

5.4 Groundside System

5.4.1 Fisher Road

Golden Airport is accessed by Fisher Road, a two-lane road with a width of approximately 7 m. Fisher Road is paved from its intersection with 5th Avenue to the southern edge of the Airport's leasehold lot area. The Town Snow Clearing and Sanding Policy assigns Fisher Road as a low priority for plowing. The lack of an alternate access route is an issue that is accentuated by the at-grade (level) railway crossing northeast of the Airport which is regularly blocked by trains.

Summary

- Access via Fisher Road is generally adequate but can be limited due to the railway crossing and when plowing is not completed.

5.4.2 Parking Lot

A gravel public parking lot is located adjacent to the terminal building with the capacity for approximately 90 vehicles. The availability of parking has not been noted as a stakeholder concern, and the area that can be used for parking is expected to meet demand for the foreseeable future.

Summary

- No deficiencies have been identified with the parking lot.

5.4.3 Perimeter Fence and Access Control

A chain-link fence approximately 4 ft. high extends along the northern, western, and southern perimeter of the site. The eastern perimeter is partially enclosed by the raised berm of the railway line; however, gaps exist between the berm and fence line. The height of the fence and the unprotected eastern perimeter are not reflective of typical airport fencing intended for wildlife and security control. The perimeter fence was observed to be in good condition.

Numerous vehicle and pedestrian gates are installed along the fence line and provide access to the airfield, aprons, and leasehold lots. Stakeholder consultations as well as on-site observations suggest that these gates are generally not secured and are often left open. Maintaining proper airside access control is recommended from an aviation safety and security perspective. Inadequate access control disincentivizes operators from leaving their aircraft unattended for extended periods of time as there is a higher risk for mischief, vandalism, and theft.

Summary

- Airside access control is hindered by the height of the perimeter fence, the unsecured eastern perimeter, and pedestrian and vehicle gates which are commonly left unlocked.



Perimeter fence (left) and vehicle gate (right)

5.5 Utilities and Servicing

5.5.1 Potable Water

Golden Airport is connected to the municipal potable water system via a two-inch underground water service line. The waterline extends from the main urban area at 12th Street South under the railway and Runway 32 threshold before being routed northwards along Fisher Road to the development lots and terminal building.

Based on the diameter of the waterline, a maximum flow of 130 U.S. gallons per minute (gpm) can be provided. At a nominal operating velocity, this flow can be estimated at 60 U.S. gpm; further reductions may be expected given the head losses that occur along the length of the waterline from its source. Testing by Town Staff at the terminal building in August 2020, for example, identified a maximum flow of 6 U.S. gpm from a half-inch hose bib. From consultations with Town Staff, it is understood that the residual capacity of the existing waterline limits the scale of new development to uses with minimal water needs. The waterline also necessitates the use of dry hydrants connected to the Columbia River for fire suppression, as described below.

Summary

- The residual capacity and flows of the water service line limits new development and fire suppression capabilities at Golden Airport.

5.5.2 Sanitary Sewer

The terminal building and development lots are connected to the Town of Golden's municipal sanitary sewer network. A two-inch sewer main conveys waste to a lift station southeast of the threshold of Runway 32, where it is routed to the sewage treatment plant to the south. New connections to the sanitary sewer system will be limited by the residual capacity of the existing line.

Summary

- The sewer main has minimal residual capacity and limits new development.

5.5.3 Electricity

Underground electrical servicing is available at Golden Airport and constraints were not noted through stakeholder consultations.

5.5.4 Fire Suppression

Fire suppression activities are the responsibility of the Golden Fire Department, a volunteer organization that can suppress structural fires and respond to aircraft accidents using their fleet of mobile equipment. Water is supplied by a fire hydrant at the south end of the Airport, a drafting hole near the terminal building, and a drafting site at the Columbia River boat launch. From consultations with the Golden Fire Department, crews can relay pump to the Airport and / or draft enough water to suppress a structure fire or aircraft accident.

The suppression capabilities of the Golden Fire Department are adequate for the current operations and commercial activities taking place at Golden Airport. Fire detection and suppression systems can be used in new developments to facilitate earlier responses by the Fire Department. Given the limitations of the municipal water system, one or more new dry hydrants connecting to the Columbia River may be required.

Summary

- Golden Fire Department is generally equipped to handle accidents and structural fires at the Airport; and
- The constraints of the municipal water system may require one or more new dry hydrants connected to the Columbia River.

5.6 Development Lots

Development at Golden Airport is facilitated through multi-year leasehold agreements. Per Section 175 of the British Columbia Community Charter, land lease agreements of municipal property are limited to five-year terms unless a public referendum is held.

All development lots are located at the west side of the Airport with airside access via Aprons I, II, and III and groundside access from Fisher Road. A total of 11 development lots have been designated at the Airport, as detailed in Table 5.5. Three lots are available for development with a cumulative area of 4,809 m² and sizes between 640 m² and 2,300 m²:

- Lot 3 is constrained by buildings to the north and south and its limited frontage (17.5 m) precludes most development except for a small general aviation aircraft hangar.
- Lots 6 and 10 are sufficiently large to accommodate hangars for multiple aircraft or aviation business, such as a Flight Training Unit or Aircraft Maintenance Organization.

Based on stakeholder consultations, sufficient demand may exist for the absorption of the three vacant lots and the possible requirement for additional development lots. Through modest reconfigurations to the airside environment through a Facility Development Plan, the total developable area could be increased by more than 2,300 m².

Table 5.5 - Development Lot Inventory

Lot Number	Area (m ²)	Status
2	1,620	Leased – Province of BC Wildfire Base
2A	8,421	Leased – Alpine Helicopters
3	643	Vacant
4	2,096	Leased – Golden and District Search and Rescue
5	564	Leased – Private Hangar
5A	750	Leased – Whitetooth Helicopters
6	2,325	Vacant
7	3,113	Leased – Private Hangar
8	2,463	Leased – Weather Observation Site
10	1,841	Vacant
11	601	Leased – East Kootenay Fuel Sales

5.7 Site Constraints

The current and future development of Golden Airport is subject to several natural and man-made constraints. These constraints should be carefully considered when identifying further business opportunities and infrastructure rehabilitation and development requirements. Constraints impacting development and operations at Golden Airport can be classified as natural or man-made. Each constraint is described below and is visually represented in Figure 5.2. Although Golden Airport is a Registered Aerodrome, some of the constraints identified herein have been identified by the application of TP312.

5.7.1 Natural Constraints

Watercourses and Flooding

The Airport is impacted by two watercourses: the Kicking Horse River, 150 m to the north; and the Columbia River, immediately to the west of the property boundary. The proximity of the Airport to both rivers limits the area that is suitable for development. Based on the March 2020 Golden Flood Study by Matrix Solutions, the site is located within the 1:200-year Columbia River floodplain. In addition to the proximity of the two rivers, a high water table also results in instances where the infield is infiltrated with standing water, further limiting the availability of lands suitable for development.

Topography

Golden Airport is located within the Columbia River canyon at an elevation of 2,600 ft. Above Sea Level (ASL). Significant rising terrain in the vicinity of the Airport restricts aircraft operations as nearby mountains increase in elevation to approximately 11,000 ft. ASL. The rising terrain also increases the Minimum Decision Altitudes of the Airport's IFPs, thereby hindering the availability of the facility in Instrument Meteorological Conditions.

Trees

Several stands of trees are in the vicinity of the Airport in all directions, but most notably there are numerous trees located under the approach paths of Runway 14-32, which present an obstacle to arriving and departing aircraft.

5.7.2 Man-Made Constraints

North

Fisher Road and the Confluence Park parking lot and washroom are located approximately 150 m north of the Runway 14 threshold which limits the extension of the runway and may penetrate the Approach Obstacle Limitation Surface.

West

Fisher Road borders the western property boundary and is located between 40 m and 60 m from Runway 14-32. The Columbia River and Confluence Park are located further to the west. The proximity of these three features limits the development of the Airport to the west.

South

A sewage lift station with an associated access road is located approximately 70 m south of the Runway 32 threshold. A large stockpile of aggregate material is located adjacent to the lift station. A 69 kV powerline approximately 90 ft. Above Ground Level (AGL) is located 550 m south under the Runway 32 approach. Each of these structures or features impact the Runway 32 Approach Obstacle Limitation Surface. The Golden Wastewater Treatment Plant is located approximately 250 m south, which limits the extension of Runway 14-32.

East

A CP Rail line on an elevated berm runs parallel to Runway 14-32, approximately 50 m to the east. This railway may be a constraint on the Transitional Obstacle Limitation Surface.

Sensitive Land Uses

While not a direct constraint on Golden Airport, the proximity of Golden's urban area is a relevant consideration. Residential neighbourhoods are located approximately 100 m to 200 m to the east of the Airport. Noise from both fixed wing and rotary wing aircraft operations can disturb residents and sensitive land uses in the community.

**High water
table adjacent
to Runway 14-
32**



**Rising terrain
in the vicinity
of the Airport**



**Trees adjacent
to the Runway
32 threshold**



**Fisher Road
and
Confluence
Park west of
Runway 14-32**



**Sewage lift
station south
of Runway 32
threshold**



**Aggregate
stockpile south
of the Runway
32 threshold**



**Powerline
under the
Runway 32
approach**

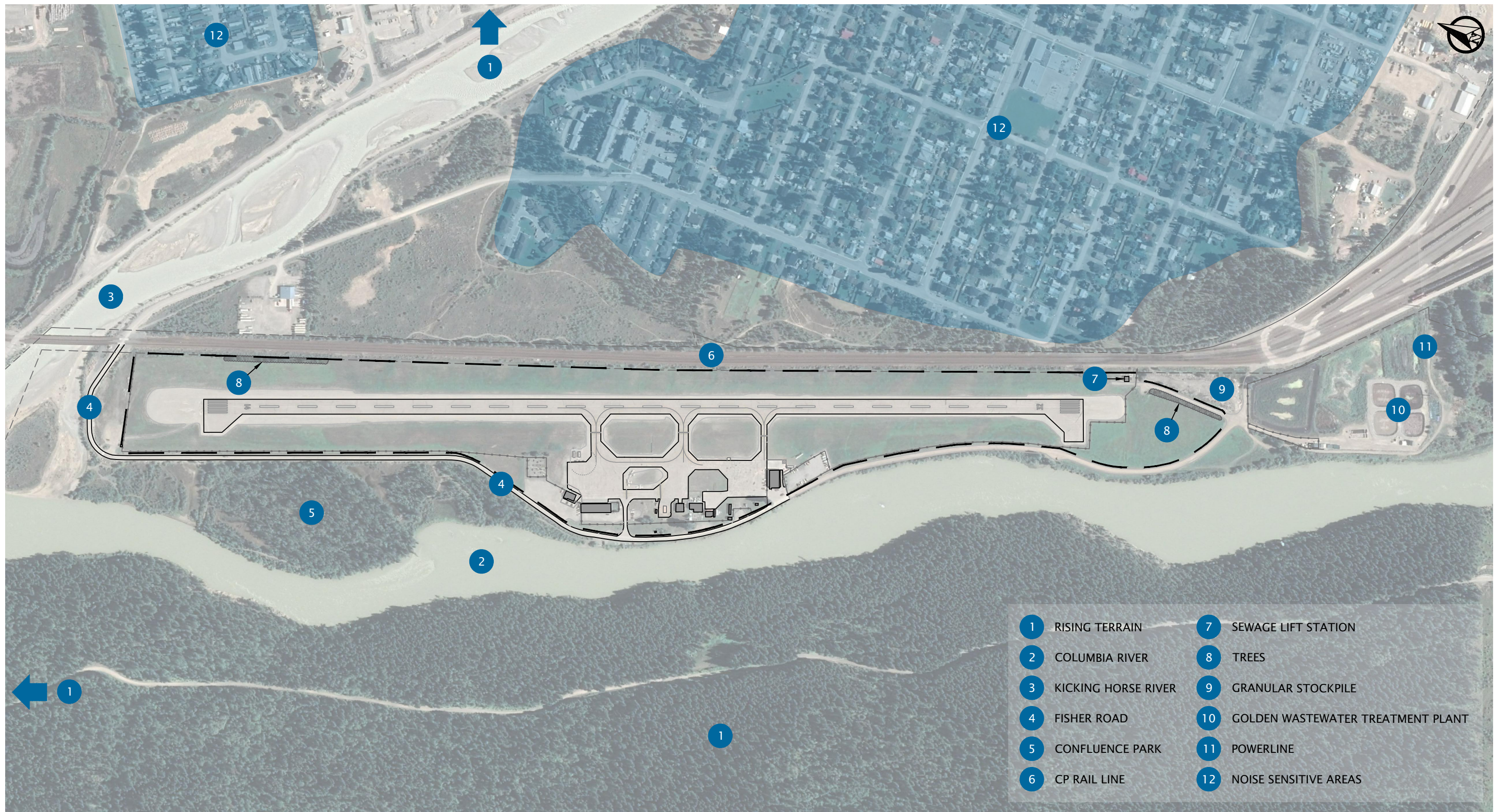


**Railway line
and Runway
14-32**



**Obstacles
under the
Runway 32
approach,
including the
powerline,
granular
stockpile, and
trees**





6 FINANCIAL REVIEW

The success of many regional airports in Canada is typically measured not in the profit generated, but by their financial sustainability and socioeconomic benefits. The goal of most airports is to be financially self-sufficient and therefore not require grants or subsidies from the communities they serve; however, this can prove to be difficult for many municipal and regional governments when capital rehabilitation efforts are required and funding requirements extend beyond annual airport operating budgets. Depending on the environment in which the airport operates, the population it serves, the services it provides, and the management and governance structure in place, there may be considerable challenges to achieving the goal of financial self-sustainability.

The financial review of Golden Airport highlights its operating revenues, expenses, and deficit; capital expenses; and overall financial performance and comments on current fiscal management practices and procedures based on the experience of the project team.

6.1 Operating Revenues

Two types of operating revenue are recorded at Golden Airport according to financial statements available from 2015 to 2019, as shown in Table 6.1 and described below:

1. **Leasehold and Rental Revenue:** Payments made by tenants of leasehold lots and from the rental of the terminal building; and
2. **Miscellaneous Revenue:** Revenue from temporary use permits, interest earned on investments, and general revenue.

Operating revenues have increased from approximately \$18,000 in 2015 to \$33,000 in 2019, reaching a maximum of \$39,000 in 2018. This represents an average annual increase of 19%.

Table 6.1 - 2015-2019 Operating Revenues

	2015	2016	2017	2018	2019
Leasehold and Rental Revenue	\$17,648	\$21,836	\$22,886	\$37,848	\$32,216
Miscellaneous Revenue	\$800	\$800	\$894	\$1,244	\$980
Total Revenue	\$18,448	\$22,636	\$23,780	\$39,092	\$33,196

Leasehold and Rental Revenue

As described in the Airport Profile, several parties have entered into multi-year lease agreements for development lots at the Airport. The Town also receives revenue from organizations that rent space in the terminal building. Leasehold and rental payments account for 97% of average annual revenues.

Leasehold and rental payments primarily explain annual fluctuations in Airport revenues. The increase in total operating revenues experienced in 2018, for example, was primarily the result of a 65% increase in leasehold revenues versus 2017. Conversely, the decline in operating revenues in 2019 was the result of a 15% decrease in leasehold payments.

As the standard term for leasehold agreements is five years and numerous tenants have long-established presences at the site, leasehold payments are an important source of stability for Airport finances. Therefore, continuing to maintain positive working relationships with existing tenants is recommended. The development of additional leasehold lots has the potential to yield a positive impact on operating revenues.

Miscellaneous Revenue

Miscellaneous revenues represent an average of 3% of annual Airport operating revenues and include items such as temporary use permits and interest earned on investments. Minimal change over time is evident in this category, with growth primarily a result of interest earned on the Airport's capital and operating reserves.

6.2 Operating Expenses

A total of 25 different expenses are recorded for Golden Airport which can be consolidated into eight categories, as summarized below, and shown in Table 6.2:

1. **Wages and Benefits:** Costs incurred by Town Staff maintaining the Airport.
2. **Billing and Administration:** Costs incurred by Town Staff in managing the Airport.
3. **Equipment:** The cost of the use of Town-owned and contracted equipment at the Airport.
4. **Contracted Services:** Costs incurred by the Town in hiring private companies to perform services at or for the Airport.
5. **Materials and Supplies**
6. **Insurance**
7. **Utilities and Telecommunications:** The costs of electricity, heating fuel / propane, potable water, sanitary sewer, internet, and telephone services to the terminal building and a private hangar.
8. **Miscellaneous:** Minor expenses such as training, subscriptions, permits, and travel.

Expenses have increased from \$79,000 in 2015 to \$104,000 in 2019, or approximately 7% per year. The proportional breakdown of expenses is illustrated in Figure 6.1.

Figure 6.1 - Average Annual Operating Expenses

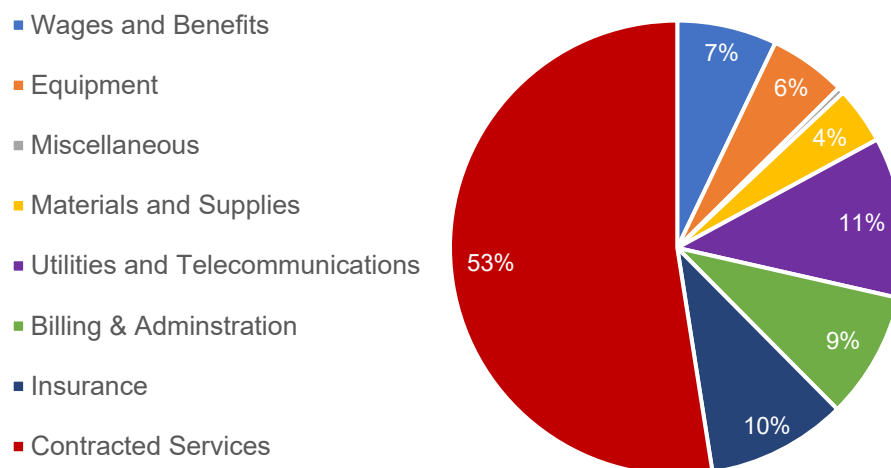


Table 6.2 - 2015-2019 Operating Expenses

	2015	2016	2017	2018	2019
Wages and Benefits	\$4,380	\$4,535	\$7,554	\$7,606	\$7,429
Billing and Administration	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Equipment	\$5,330	\$5,087	\$5,120	\$4,800	\$3,945
Contracted Services	\$41,925	\$44,703	\$45,566	\$45,307	\$55,233
Materials and Supplies	\$923	\$1,038	\$1,892	\$7,639	\$6,548
Insurance	\$9,140	\$9,132	\$8,187	\$8,453	\$9,225
Utilities and Telecommunications	\$8,484	\$9,223	\$10,194	\$10,176	\$12,715
Miscellaneous	\$532	\$207	\$586	\$241	\$412
Total Expenses	\$78,714	\$81,925	\$87,099	\$92,222	\$103,507

Wages and Benefits

Town Staff log the hours spent maintaining the Airport, including regular, casual, and overtime hours and costs are allocated to the Airport within the Town's financial management system. Wages and benefits account for approximately 7% of average annual operating expenses and have increased from \$4,400 in 2015 to approximately \$7,500 over the last three years.

Billing and Administration

An annual expense of \$8,000 is included in the Airport financial statements to capture the hours incurred by the CAO, CFO, Manager of Operations, and Manager of Legislative Services. From consultations with the CFO, it is understood that this figure has been unchanged for approximately ten years and likely under-represents the hours incurred by the above-noted individuals. Billing and administration accounts for approximately 9% of average annual operating expenditures.

Equipment

There is no dedicated equipment at the Airport for use by Town Staff. Instead, employees make use of mobile equipment (e.g. pickup trucks, graders, plows) as needed at the Airport. The costs of using each piece of equipment are calculated based on the hours of staff time at the facility multiplied by a standard unit rate. Consultations with Town Staff indicate that the standard unit rates have not been updated in recent years and may under-represent actual equipment costs. This category accounts for approximately 6% of average annual operating expenses.

Contracted Services

The complexity of operating the Airport has led the Town to contract select services to private companies through multi-year arrangements and on an ad hoc basis. Contracted services have increased by an average of 7% per year and are the largest Airport operating expense category, comprising 53% of average annual operating expenses. As noted in the Administrative Review, contracted services include:

- Airport ambassadorial services;
- Pavement repairs and line markings;
- Construction and contracting;
- Security alarm services;
- Weed management;
- Pest control;
- Airside mowing;
- Instrument Approach Procedure verification; and
- Professional consultants.

Other Expenses

Other operating expenses, including utilities and communications, miscellaneous items, materials and supplies, and insurance have remained relatively stable over the past five years. Combined, these items represent approximately 25% of the Airport's average annual operating expenses.

6.3 Operating Deficit

In each year from 2015 to 2019, the revenues generated at the Airport have been less than the expenditures incurred through the operation of the facility, representing an annual operating deficit. To resolve this deficit, Golden Airport is subsidized by the Town of Golden and CSRD. This subsidy relative to the Airport's operating revenues and expenses is shown in Table 6.3. The funding provided by each municipality is determined on an annual basis by an assessment completed by the CSRD; the Town and CSRD typically pay 47% and 53% of the operating deficit, respectively. Shared funding models such as this are common at many regional airports in Canada and are encouraged, as such facilities benefit residents and businesses within the larger catchment area beyond the municipalities in which they are located.

Approximately 30% of the Airport's expenses are funded by its operating revenues, with the remaining 70% contributed by the Town and CSRD. As revenues have increased, the proportion of expenses funded by municipal subsidies has decreased from 77% in 2015 to 68% in 2019.

Table 6.3 - 2015-2019 Operating Revenues, Expenses, and Deficit

	2015	2016	2017	2018	2019
Total Revenues	\$18,448	\$22,636	\$23,780	\$39,092	\$33,196
Total Expenses	\$78,714	\$81,925	\$87,099	\$92,222	\$103,507
Total Deficit	\$60,267	\$59,289	\$63,414	\$53,274	\$70,492
Town of Golden	\$28,856	\$27,624	\$30,667	\$24,906	\$33,223
CSRD	\$31,411	\$31,665	\$32,747	\$28,368	\$37,269

6.4 Capital Expenses

Incurring expenses through the completion of capital rehabilitation projects is necessary for the long-term viability of any infrastructure asset. Capital projects at airports are associated with the airside, terminal and other supporting buildings, and landside and can include runway rehabilitations and extensions, drainage improvements, utility and servicing upgrades, and terminal upgrades.

The review of historical financial data for the Airport and consultation with the CFO revealed that there have been no substantial capital projects undertaken at the Airport in the past nine years, which are defined by the Town as capital expenses exceeding \$5,000. After examining the last five years of financial information, approximately \$56,000 has been allocated to pavement repairs and construction / contractors. These projects were mostly associated with maintaining the Airport's capital assets, including pavement spot repairs, crack filling, and miscellaneous building system repairs. A review of the Town of Golden's 5-year financial plan indicates that capital investments at the Airport are not anticipated prior to 2023.

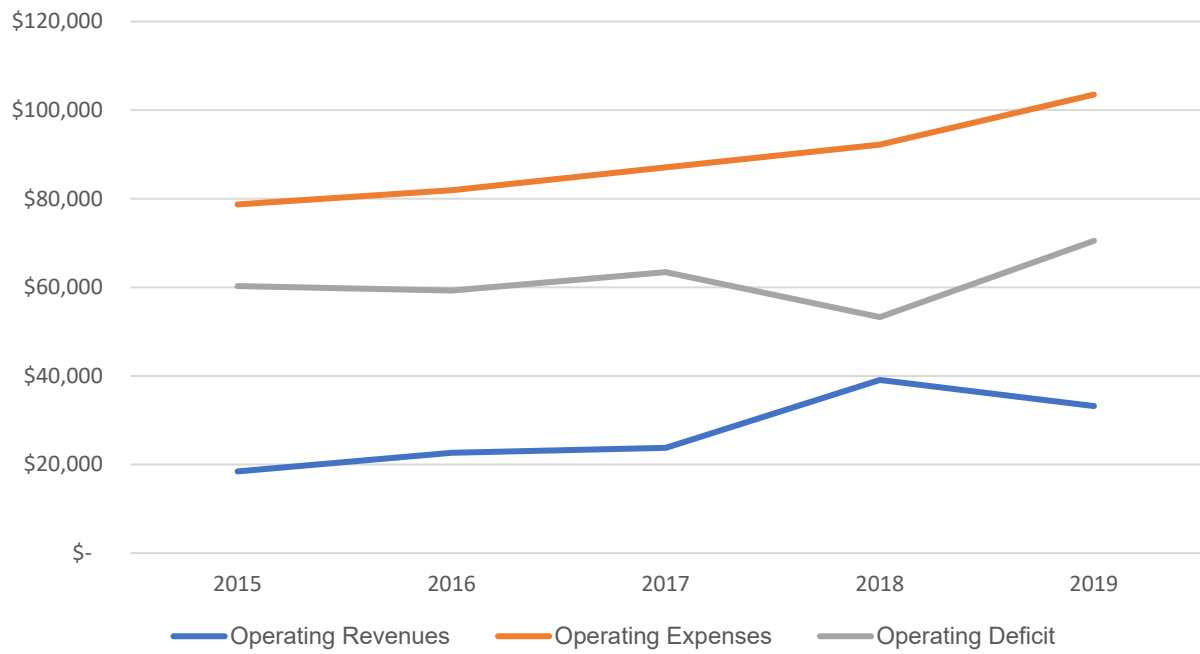
From consultations with Town Staff, the lack of historical substantial capital investments in Golden Airport is partly due to the Town's financial capacity and numerous competing priorities. This issue is exacerbated by the lack of a capital funding partner.

6.5 Financial Performance

Golden Airport's financial performance is considered to be good and similar to that of other municipally owned airports in Canada that successfully fulfill the socioeconomic needs of their region. The 2015 to 2019 trends in operating revenues, expenses, and deficit are shown in Figure 6.2. After reviewing the Airport's financial statements, the following conclusions can be made:

- The primary source of revenue is leasehold and rental payments (97%).
- The Airport's operating expenses have increased gradually over the last five years.
- The Airport incurs an annual operating deficit that is funded by the Town and CSRD. A financially sustainable airport does not necessarily have to be profitable but should facilitate economic and social benefits in its catchment area. Though Golden Airport requires municipal resources, expenses may be justified by the socioeconomic benefits realized within the region as described in the Airport Profile.
- The Town has not completed any major capital improvements at the Airport in recent years; however, funds have been invested to extend the service life of critical infrastructure assets such as the runway, taxiways, aprons, and terminal building. Continued regular maintenance practices will extend the life of critical infrastructure, although larger-scale infrastructure rehabilitation efforts will be required when pavement service life can no longer be extended.
- The Town has established operating and capital reserves to aid in funding the operation and maintenance of the Airport. The interest earned on these reserves is categorized as a revenue, however, additional funds may be required for capital infrastructure renewal projects to support the ongoing operation of Golden Airport within the next 20 years.

Figure 6.2 - 2015-2019 Operating Revenues, Expenses, and Deficit



7 STAKEHOLDER CONSULTATIONS

7.1 Engagement Strategy

7.1.1 Advertising

The Golden Municipal Airport Economic Viability Study and the opportunities for stakeholder input were advertised by the Town Communications Official, beginning at the project's outset. News about the project was communicated through advertisements in the Golden Star, a project webpage on the Town website, and social media posts. Information about the project was also distributed by the Golden Municipal Airport Facebook, Twitter, and Instagram accounts operated by East Kootenay Fuel Sales.

7.1.2 Public Information Session

A public information session was held digitally via a Zoom Webinar on June 24, 2020. The public information session was advertised for approximately two weeks, 92 individuals registered to attend, and 62 individuals attended the webinar.

The webinar was led by two representatives from HM Aero, with the Town Mayor and CAO also available as panelists to answer questions. The information session included a brief presentation on Golden Airport, the study process and background, and opportunities for engagement. Approximately 50 questions and comments were received from the audience. All questions and comments were documented by the project team with key themes identified below. The meeting was recorded and uploaded to the Town of Golden's website.

7.1.3 Online Surveys

Two online surveys (resident and business) were prepared by HM Aero in coordination with the Town and hosted on SurveyMonkey. Both surveys were launched on June 10, 2020 and were hosted until August 31, 2020 for a total availability period of approximately three months. A total of 571 responses were received through the resident survey and 63 responses through the business survey, for a total of 634 responses.

The questions for the resident and business surveys are provided in Appendix A. The data from both surveys is presented in Appendix B and summarized in Section 7.2.2.

7.1.4 Stakeholder Interviews

A list of project stakeholders was developed by HM Aero and the Town of Golden comprised of individuals, organizations, and businesses. Interviews were conducted by telephone, videoconference, and in-person during HM Aero's site visit from July 6 to 10, 2020. A total of 51 interviews were completed with stakeholders from 38 organizations, as summarized in Table 7.1.

7.1.5 Written Submissions

Written submissions articulating individual or organizational viewpoints were received from the following parties: Alberta Aviation Council, Backcountry Lodges of British Columbia, Canadian Owners and Pilots Association, and four private citizens. Written submissions received from these parties are included in Appendix C.

Table 7.1 - Interviewed Stakeholder Organizations

Government	
Columbia Shuswap Regional District	Town of Golden
Province of British Columbia – BC Air Ambulance	Province of British Columbia – Interior Health
Province of British Columbia – Southeast Fire Centre	Province of British Columbia – Transportation
Royal Canadian Air Force – 408 Tactical Helicopter Squadron	Royal Canadian Mounted Police – Golden Detachment
Government of Canada – Transport Canada	Royal Canadian Air Force – 442 Transport and Rescue Squadron
Government of Canada – Parks Canada	
Airport Businesses and Tenants	
Alpine Helicopters	East Kootenay Fuel Sales
Golden and District Search and Rescue	Kicking Horse Aviation
Skydive Extreme Yeti	Whitetooth Helicopters
Aircraft Operators and Aviation Service Providers	
AirSprint	Carson Air
Direct Approach Consulting	NAV CANADA
Slater Ecosphere	Pacific Coastal Airlines
Shock Trauma Air Rescue Society (STARS)	
Industry Associations	
Alberta Aviation Council	Backcountry Lodges of BC
British Columbia Aviation Council	British Columbia General Aviation Association
Canadian Business Aviation Association	Canadian Owners and Pilots Association
Helicat Canada	
Regional Businesses and Stakeholders	
Golden Community Coop	Kicking Horse Country Chamber of Commerce
Kicking Horse Mountain Resort	Physicians of Golden
School District 6 – Rocky Mountain	Tourism Golden
Christina Benty Strategic Leadership Solutions	College of the Rockies

7.2 Findings

7.2.1 Survey Data

Resident Survey

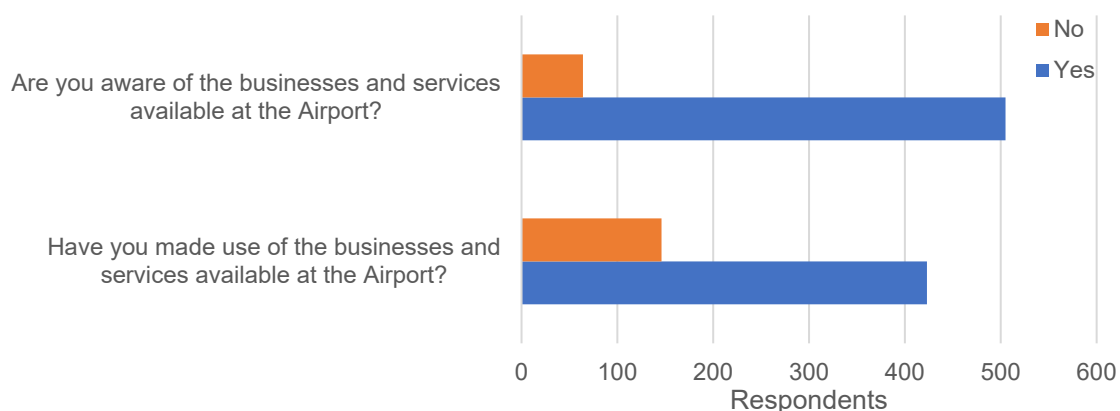
Respondent Overview

The resident survey was answered by 571 respondents with the majority (79%) residing in either the Town of Golden or Area A. The 21% of respondents who did not identify as being from Golden or Area A were primarily from other municipalities in British Columbia and Alberta.

Awareness and Use

As shown in Figure 7.1, most respondents (89%) stated that they are aware of the businesses and services located at Golden Airport, with 74% stating that they make use of these businesses and services. When filtering for only respondents from Golden and Area A, awareness and use remain steady at 88% and 72%, respectively. This indicates that individuals in the Airport's catchment area are generally aware to the activities happening at the facility, although participation bias may affect this result in that respondents with a prior knowledge or value of the Airport may be more motivated to complete the survey versus someone who is unaware of the Airport or disinterested in its operation.

Figure 7.1 - Airport Awareness and Use (Resident Survey)

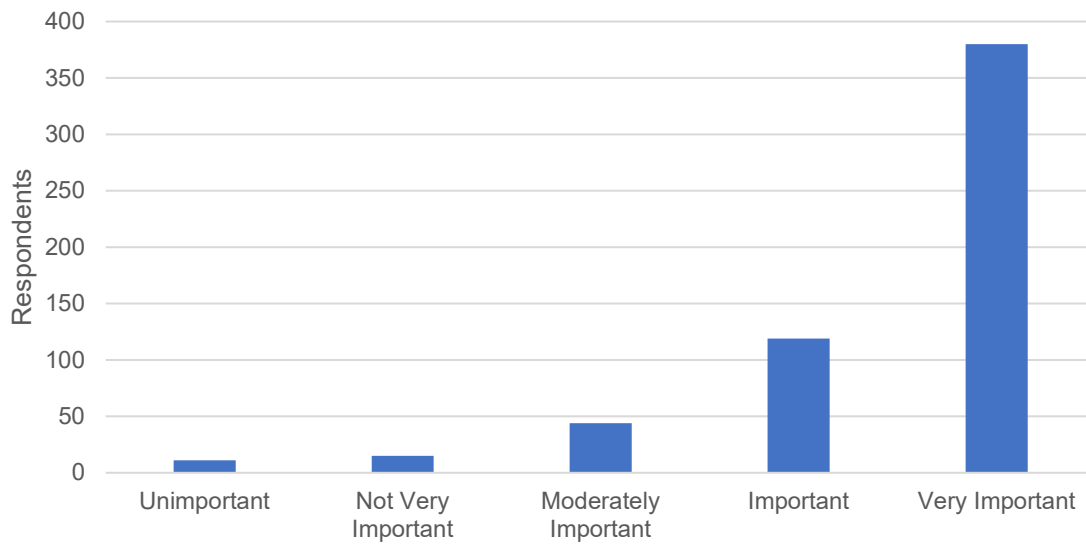


Importance

Respondents were asked about the importance of Golden Airport to them using a five-point Likert scale. As shown in Figure 7.2, 88% of respondents stated that the Airport is “important” or “very important” to them. When asked to rank the importance of five airport services or features on a five-point scale, approximately:

1. 70% of respondents identified emergency services (air ambulance, wildfire suppression, SAR) as the most important;
2. 39% identified aerial tourism as the second most important;
3. 29% identified charter and business aviation as the third most important;
4. 29% identified general aviation as the fourth most important; and
5. 44% identified flight training as the fifth most important.

Figure 7.2 - Airport Importance (Resident Survey)



Airport Future

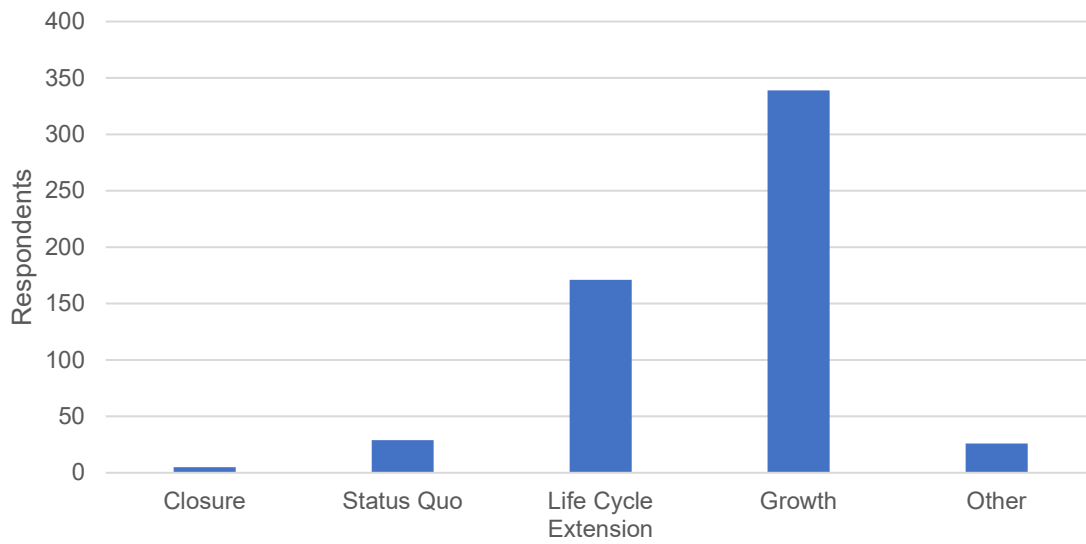
Respondents were presented with a multiple-choice question for the future vision of Golden Airport with five options:

1. **Closure:** The Airport should be closed, and alternative uses should be explored for the site.
2. **Status Quo:** The Airport should continue to be operated. No capital rehabilitation or expansion projects should be considered.
3. **Life Cycle Extension:** The Airport should continue to be operated. Capital projects should be limited to the rehabilitation of existing assets.
4. **Growth:** The Airport should continue to be operated. Capital projects related to the rehabilitation of existing assets and new projects for business development and growth should be pursued.
5. **Other:** Respondents were given the opportunity to provide their own answers.

As shown in Figure 7.3, most respondents identified a vision focussed on life cycle extension (30%) or stimulated growth (59%) as their preference. The status quo option was selected by 5% of respondents, and 1% of respondents identified the closure of the facility as their preferred vision. Approximately 5% of respondents provided an alternative or differentiated vision not captured in the four multiple choice options, which generally included:

- The relocation of the Airport;
- Shifting to helicopter-only operations;
- Growth should be pursued if noise pollution will be limited;
- Consolidating the operations of Golden Airport, Fairmont Hot Springs Airport, and Invermere Airport; and
- Growth being tied to private sector investment or provincial / federal grant funding.

Figure 7.3 - Airport Vision (Resident Survey)



Business Survey

Respondent Overview

The business survey was answered by 63 respondents with 68% located in Golden or Area A and the balance primarily located in Alberta and British Columbia. The largest group of respondents were businesses or organizations in the tourism sector (40%), followed by professional services (19%), transportation (16%), and retail (6%). Other sectors included the construction sector, flight training, aerial photography, healthcare, and not-for-profits.

Awareness and Use

Similar to the findings of the resident survey, the majority of respondents (94%) to the business survey answered that they are aware of the businesses and services of Golden Airport, and 84% stated that they make use of the Airport (Figure 7.4). While participation bias also likely affects these results, this indicates that awareness and usage of the services at the Airport is generally higher among the business community than with residents.

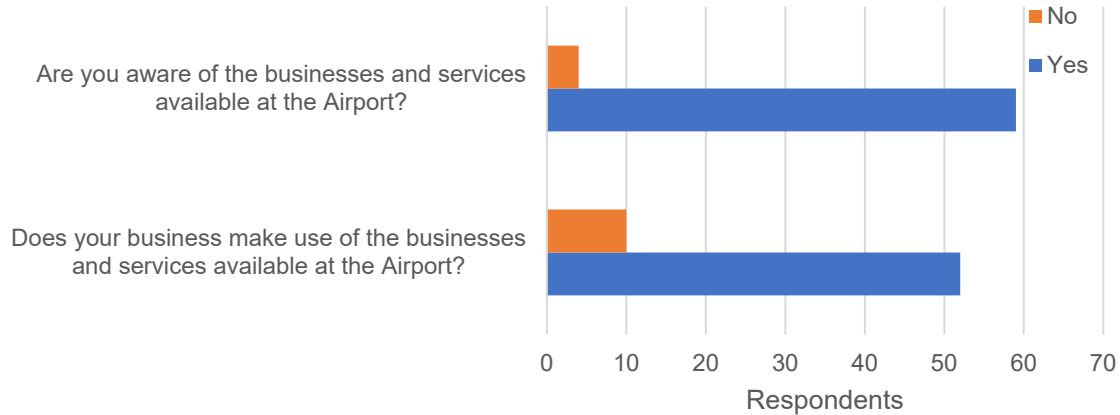
Importance

Respondents were asked whether the proximity of their business or organization to Golden Airport is important to them and / or their customers, with 72% stating that Airport proximity is important. Further, 48% of respondents stated that the presence and availability of Golden Airport influenced their decision to locate in Golden.

Using the same five-point Likert scale developed for the resident survey, respondents were asked to rank the importance of emergency services, aerial tourism, charter and business aviation, general aviation, and flight training to their business. The identified priorities were:

1. Emergency Services;
2. Aerial Tourism;
3. Charter and Business Aviation;
4. General Aviation; and
5. Flight Training and Education.

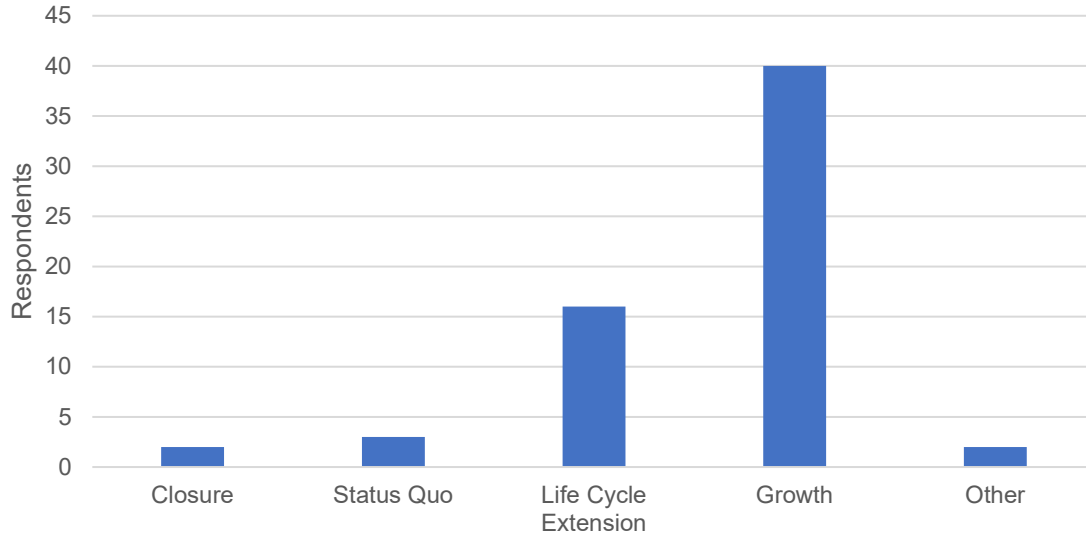
Figure 7.4 - Airport Awareness and Use (Business Survey)



Airport Future

Respondents were presented with the same multiple-choice question for the future vision of Golden Airport, contemplating closure, status quo, life cycle extension, growth, and other options. Similar to the resident survey, business respondents identified stimulated growth (63%) or life cycle extension (25%) as their preferred vision as shown in Figure 7.5.

Figure 7.5 - Airport Vision (Business Survey)



7.2.2 Key Themes Summary

Based on the resident and business surveys and stakeholder interviews, numerous key themes have been identified by the project team. The themes identified below are matters that were commonly identified by stakeholders; however, the absence of a stakeholder view below does not mean that matter was not considered during the preparation of this study. The key themes summary is intended to provide an overview of stakeholder views and should not be considered as a comprehensive list of all stakeholder feedback received.

Strengths

- Golden Airport is important in its support of both helicopter and fixed-wing air ambulance, wildfire suppression and SAR operations;
- The businesses at Golden Airport are crucial in supporting the tourism industry, including backcountry lodges, heliskiing, and other adventure recreation activities;
- The infrastructure of the Airport is generally suitable for the needs of current tenants and operators;
- The Town has completed regular maintenance and crack sealing to maintain the infrastructure assets;
- The Airport is an important aircraft diversion and fuelling location along two VFR navigation routes; and
- The trails and Confluence Park near the Airport are a social asset to the community.

Weaknesses

- Perception that the Airport is underutilized;
- The Airport's non-certified status precludes scheduled passenger air services;
- Lack of nighttime availability;
- Five-year land lease agreements and the uncertainty regarding the future of Golden Airport disincentivizes investments by current and prospective tenants;
- Airport availability is limited in Instrument Meteorological Conditions (IMC) due to the minimums of the Instrument Flight Procedures and surrounding terrain;
- Runway condition reporting and winter maintenance is inconsistent;
- Key aviation support businesses, including a Fixed Base Operator and Aircraft Maintenance Organization, are not available; and
- Aircraft noise can be a nuisance for nearby residential properties.

Opportunities

- Airport finances should be more balanced between municipal subsidies and user fees;
- Inclusion of the Airport within the upcoming community economic development strategy;
- Charter passenger air services and corporate aviation;
- Additional activity may occur if the regional tourism sector continues to grow;
- Attraction of specialized mountain flight training;
- Development lots may be absorbed for new hangars and aviation businesses;
- Increased marketing collaboration with regional stakeholders (e.g. Chamber of Commerce, Golden Community Co-op);
- Pursuit of grant funding from upper levels of government;
- Integration of aviation-based education programs; and
- Non-aviation residential, commercial, and industrial redevelopment should be considered if it is decided that the Airport should close.

Threats

- Competing priorities for Town and CSRD funding and future investments;
- The attainment of grant funding is not guaranteed and overreliance on external sources of funding can threaten capital projects;
- The Airport, if closed, is unlikely to reopen given the regulatory approvals required;
- The closure of the Airport would negatively impact air ambulance, wildfire suppression, and SAR capabilities in the region;
- Traffic may be lost to competitor airports such as Fairmont Hot Springs and Revelstoke without more active development and promotion; and
- Relying on STARS for all air ambulance needs will result in a reduced level of care given the unique capabilities of fixed-wing air ambulances (e.g. infant care team).

Requested Improvements

- Improvements should be “right-sized” for the needs of Golden Airport and the financial capacity of the Town;
- Future recommendations should consider long-term asset management implications;
- Additional Airport marketing and advertising;
- Hire a dedicated Airport Manager;
- Maintain the Airport’s existing level of service and infrastructure;
- Provide infrastructure for larger aircraft;
- Implement lighting for nighttime operations and improved Instrument Flight Procedures (IFPs);
- Evaluate the Airport’s governance and consider alternative models;
- Update the look and feel of the facility;
- Improved winter maintenance and de-icing services;
- Implement aircraft noise abatement procedures;
- Upgrade and / or expand the terminal building;
- Improved weather observation and forecasting capabilities; and
- Better fencing and airside access control.

8 AVIATION INDUSTRY CONSIDERATIONS

8.1 Comparator Airport Analysis

The opportunities and challenges of Golden Airport can be compared to those of similar airports to identify best practices, competitive advantages, and potential shortfalls. Three comparator airports have been selected that have similar characteristics to Golden Airport in terms of populations served, status, use, geographic setting, etc.: Revelstoke Airport, Fairmont Hot Springs Airport, and Pemberton Regional Airport. Table 8.1 provides relevant data for each of the comparator airports based on publicly available sources referenced by the project team in the summer of 2020, including the Canada Flight Supplement, airport websites, and resources provided by other municipalities.

Table 8.1 - Comparator Airports

	Golden Airport	Revelstoke Airport	Fairmont Hot Springs Airport	Pemberton Regional Airport
Ownership	Town of Golden	CSRD	Private	Village of Pemberton
Administration	Municipal Department	Municipal Department	Private	Municipal Department
2016 Population	Golden and Area A: 6,900	Revelstoke and Area B: 8,100	East Kootenay Area F: 2,700	Pemberton: 2,600
Status	Registered	Registered	Registered	Registered
Annual Movements	5,300	Not Available	Not Available	800 (approx.)
Runway Length	4,528 ft.	5,155 ft.	6,005 ft.	3,917 ft.
Night Operations	No	No	Yes	No
Instrument Flight Procedures	Yes – Public and Restricted	Yes – Restricted	Yes – Public and Restricted	No
Fuel	100LL, Jet A	100LL, Jet A	100LL, Jet A	100LL, Jet A
Revenue Types	Land Leases Terminal Rental	Land Leases Terminal Rental Hangar Rentals Fuel Sales Tie-Down Fees	Land Leases Landing Fees Fuel Sales	Land Leases Landing Fees Tie-Down Fees
Winter Maintenance	Limited	Limited	Limited	Limited
Use	Air ambulance Wildfire SAR Tourism General Aviation	Air ambulance Wildfire SAR Tourism General Aviation	Air ambulance Wildfire SAR Tourism General Aviation	Air ambulance Wildfire SAR Tourism General Aviation

8.1.1 Revelstoke Airport

Revelstoke Airport is a Registered Aerodrome owned and operated by the CSRD. The Airport has a comparable mix of aircraft operators, including recreational general aviation, two helicopter operators, a fixed-wing and helicopter wildfire base, air ambulance operations, and corporate traffic.

Administration and Operations

Revelstoke Airport falls under the oversight of the CSRD Operations Management Department and Community Services Division. Through interviews with CSRD staff, a significant strength was the hiring of an Airport Manager on a contract basis whose responsibilities include, but are not limited to:

- Advising the CSRD on operational and capital needs and priorities;
- Participating in Airport Advisory Committee meetings;
- Communicating with Airport tenants and users;
- Ensuring regulatory compliance;
- Promoting the Airport in collaboration with the CSRD and City of Revelstoke;
- Managing the Airport's fuel facilities; and
- Completing snow clearing and winter maintenance.

An Airport Advisory Committee has been established to facilitate discussions between the City of Revelstoke, CSRD, the flying club, and staff. However, the Committee has no decision-making power and has become inactive.



Revelstoke Airport (Google Earth)

Financial Sustainability

The CSRD is responsible for the finances of Revelstoke Airport, as the owner and operator. In both 2018 and 2019, operating revenues were exceeded by expenses requiring funding from the Regional District. Municipal subsidization accounted for 26% of operating expenses in 2018 and 32% in 2019. Accordingly, Revelstoke Airport is proportionally less reliant on municipal funding to cover its operating expenses versus Golden Airport, where municipal funding accounted for 58% of operating expenses in 2018 and 68% in 2019. The decreased reliance on municipal funding by Revelstoke Airport is partly attributed to its diversified revenue streams, which includes fuel sales, land leases, and hangar rentals.

Table 8.2 - Golden and Revelstoke Financial Comparison

	Golden		Revelstoke	
	2018	2019	2018	2019
Municipal Funding	\$53,274	\$70,492	\$145,271	\$148,854
Operating Revenues	\$39,092	\$33,196	\$421,778	\$316,637
Operating Expenses	\$92,222	\$103,507	\$554,549	\$460,911
(Surplus) / Deficit	\$0	\$0	(\$12,500)	(\$4,580)
Note 1: Financial data for Revelstoke Airport includes capital projects under operating expenses				
Note 2: Data sourced from Town of Golden and CSRD financial statements				

With respect to capital projects, the CSRD has been proactive in its funding approaches. Financial reserves are established and contributed to on an annual basis for higher cost projects, such as the potential future upgrading of water services to Revelstoke Airport. The CSRD has also successfully attained grant funding from other sources to fund capital projects including the Resort Municipality Initiative, Revelstoke Tourism Infrastructure Funding Program, Columbia Basin Trust, and Gas Tax Fund.

Charter Passenger Air Services

A partnership between the City of Revelstoke and the private sector was undertaken to demonstrate the business case for charter passenger air services between Revelstoke and Vancouver. Flights were operated between Revelstoke and Vancouver using Beechcraft 1900 airliners for three winter seasons. The service was the result of a partnership between the City of Revelstoke, Revelstoke Mountain Resort, Revelstoke Accommodation Association, and Revelstoke Connection. The development and implementation of this service required the cooperation of multiple parties, including:

- Pacific Coastal Airlines, the air service provider;
- Everything Revelstoke, which was responsible for selling tickets;
- Revelstoke Connection Limited, which provided ground transportation in the event of diversions;
- City of Revelstoke, who agreed to financially support the flights up to a predetermined limit if the service operated at a loss; and
- The CSRD, which provided operational support through snow clearing and baggage handling. The CSRD also supported the City's above-noted financial commitment through the Economic Opportunity fund.

Marketing initiatives included Facebook and email campaigns, dedicated webpages, daily flight promotions, posters, and radio advertisements. The competitive advantage of the service to Vancouverites was articulated through the marketing of "City to Slope in one hour."

Data from the City of Revelstoke was reviewed for the 2017 and 2018 seasons:

- 2017: A total of 16 roundtrips and 480 seats were offered. 405 seats were sold (85% load factor). 27% of flights were diverted. The total loss accrued was \$24,678.
- 2018: A total of 32 roundtrips and 960 seats were offered. 699 seats were sold (73% load factor). 44% of flights were diverted. The total cost to the City of Revelstoke was \$27,802.

Operational challenges hindered the service due to inclement weather and the availability provided by Revelstoke Airport's Instrument Approach Procedure. Ground access following a diversion by shuttle was also challenged by highway closures because of accidents and avalanches. From stakeholder consultations, it is understood that the reliability of the service disincentivized travellers from booking tickets. Based on pre-season data for the 2019 operation, load factors were required to exceed 80% for the service to break even.

Charter services were not renewed in 2020 and Pacific Coastal Airlines has not yet entered the Revelstoke market without the support provided through the above-noted relationship, presumably as the viability of the service has not yet been demonstrated.



Pacific Coastal Airlines at Revelstoke Airport (Revelstoke Review)

8.1.2 Fairmont Hot Springs Airport

Fairmont Hot Springs Airport (FHSA) is a Registered Aerodrome operated by the Columbia Valley Airport Society with funding support from Fairmont Hot Springs Resort. FHSA serves a wide range of traffic including corporate and recreational general aviation, wildfire operations, and air ambulance missions. FHSA is also commonly used as an alternate facility to Golden Airport.

Financial Sustainability

Mounting financial difficulties incurred by the Resort in running the facility resulted in a request to the Regional District of East Kootenay for supplementary funding. The Regional District of East Kootenay decided to provide \$60,000 in annual funding to the Airport Society through the Columbia Valley Economic Development Service to support the ongoing operation of the facility. As a private entity, detailed data on annual costs and expenses for FHSA was not available to the project team.

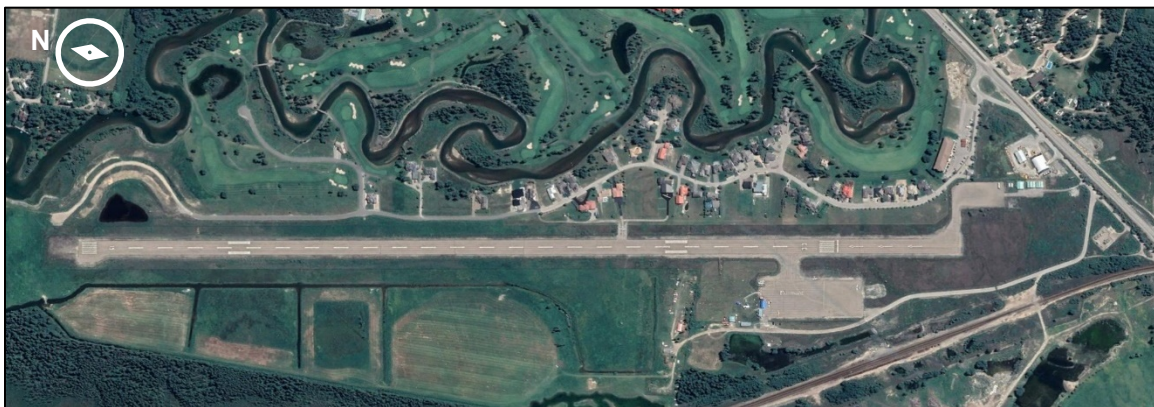
In addition, FHSA was successful in securing approximately \$17,000 in grant funding through the BC Air Access Program for facility improvements. The BC Air Access Program was used to conduct repairs to its airfield electrical systems, as well as an obstacle hazard beacon. By pursuing provincial grant funding, the capital costs of maintaining FHSA were reduced.

Viability Case

The FHSA example exhibits similarities to the challenges being experienced at Golden Airport whereby the continued operation of the facility was being examined and the economic and social benefit of the Airport was demonstrated to assist in securing funding. At FHSA, letters of support were received to testify to the importance of the facility from parties such as:

- The Member of the Legislative Assembly and Member of Parliament;
- Government agencies, including the Southeast Fire Centre, Interior Health, and RCMP;
- Industry associations, including the Chamber of Commerce, Community Economic Development, Fairmont Business Association, Fairmont Community Association; and
- Regional resorts (Columbia Eagle, Panorama, and Copper Point).

The continued operation of FHSA was justified in terms of its social benefits through the facilitation of air ambulance flights, SAR, wildfire operations, and RCAF movements, as well as through tourist heliskiing flights.



Fairmont Hot Springs Airport (Google Earth)

8.1.3 Pemberton Regional Airport

Pemberton Regional Airport is a Registered Aerodrome owned and operated by the Village of Pemberton (the Village), approximately 25 km northeast of Whistler, BC. According to the municipality, the facility supports approximately 800 aircraft movements per year. The Airport has a similar tenant base to Golden, including Blackcomb Helicopters, Whistler Skydiving, and Whitecap Alpine Adventures. The Airport is regularly used by SAR, air ambulance, wildfire suppression, the RCAF, and general aviation aircraft. In terms of Pemberton Regional Airport's overall role, Village Council has discussed the future development of the Airport with the conclusion being that the Airport is an asset for the community and that there is potential in private hangar growth to improve its economic contribution.



Pemberton Regional Airport (Google Earth)

Administration and Operations

Like Golden Airport, Pemberton Regional Airport is overseen by the Village Chief Administrative Officer who functions as the Airport Manager among their other duties. Municipal staff are assigned to the Airport for tasks such as maintenance and snow-clearing as resources and competing priorities allow. The Village provides limited winter maintenance at the Airport due to the availability of municipal resources and crews. If an individual wishes to arrange for snow clearing at the Airport, it is at their own expense. In February 2020, contaminated runway conditions contributed to an incident where a Cessna 172 slid off the runway. Irregular winter maintenance was identified as a limitation at Pemberton which further demonstrates the importance of assigning sufficient municipal resources to Golden Airport.

Financial Sustainability

Revenue from Pemberton Regional Airport is generated through aircraft tie-down fees, landing fees, lease fees, and other sources. Operating expenses are the responsibility of the Village, as are annual deficits. Table 8.3 compares the 2018 and 2019 financial statements for Golden Airport and Pemberton Regional Airport. Both airports require similar levels of financial support from their funding municipalities. Based on 2019 data, 68% of Golden Airport's operating expenses were covered by municipal funding versus 48% in Pemberton. In 2018, 58% of both airport's expenses were covered by municipal funding. It should be noted that the modest surplus incurred in both 2018 and 2019 does not mean that Pemberton Regional Airport generated a profit, as municipal subsidies were required in both years.

To reduce the financial burden of capital projects, the Village has been successful in attaining grants from the BC Air Access Program. In 2017, the Village was awarded \$195,000 through the program for the rehabilitation of an apron and taxiway, as well as the construction of an emergency access road. In 2016, \$56,000 in funding was obtained to complete a comprehensive crack sealing and pavement marking program. The Pemberton example demonstrates the potential value of grant funding to the financial sustainability of Golden Airport.

Table 8.3 - Golden and Pemberton Financial Comparison

	Golden		Pemberton	
	2018	2019	2018	2019
Municipal Funding	\$53,274	\$70,492	\$32,994	\$28,742
Operating Revenues	\$39,092	\$33,196	\$31,478	\$41,843
Operating Expenses	\$92,222	\$103,507	\$56,933	\$59,766
(Surplus) / Deficit	\$0	\$0	(\$7,539)	(\$10,819)
Note: Data sourced from Town of Golden and Village of Pemberton financial statements				

8.2 Aviation Industry Activity

Opportunities and threats related to the future socioeconomic success of Golden Airport can be contextualized within the broader aviation industry. By understanding considerations within the aviation industry, development and revenue generation opportunities can be realized through sound decision making and investment, and the proactive identification and management of future challenges and constraints. Current aviation industry issues and opportunities in Canada are discussed in the sections below, as well as their applicability to the environment in which Golden Airport operates.

Aviation Labour Shortage and Training

Prior to the COVID-19 pandemic and associated downturn in the aviation industry, a significant concern in Canada was the unavailability of aviation professionals, including pilots and Aircraft Maintenance Engineers (AMEs). Based on 2018 data from the Canadian Council for Aviation and Aerospace, approximately 500 new commercial pilots enter the industry each year which was expected to result in a shortfall of approximately 3,000 pilots by 2025. While industry-wide layoffs and furlough agreements will change this outlook for several years, the recovery of the aviation industry will likely result in these issues re-emerging in the future. Flight training and other aviation educational activities can be a significant opportunity for airports to improve their use and economic impact, including unique courses such as rotary wing and fixed wing mountain flying, SAR training, and aircraft maintenance education.

Regional Air Services

Regional air carrier services that connect large urban centres to smaller communities in Canada are commonly provided by turboprop aircraft, typically with less than 50 seats, such as the Beechcraft 1900D and the Dash 8-100. The continued provision of regional air services in Canada is challenged by aging aircraft fleets, the lack of suitable new replacement aircraft, and the operating economics of these routes.

With respect to economics, the fixed and operating costs of each flight are spread over a small number of potentially revenue generating seats. Viability is a function of route load factors (the number of passengers per flight) and yield (the price paid by each passenger). The small potential passenger market of destinations such as Golden mean sufficient load factors will likely not be realized, while the price of flights may incentivize travellers to drive at a lower cost when driving times to larger airports are reasonable. This challenge is exemplified during COVID-19 with Air Canada's withdrawal from over 30 regional routes and retirement of its Dash 8-100 and Beechcraft 1900 fleets.

Corporate Aviation

The use of private corporate aircraft is common in Canada to access markets without scheduled passenger air services and for individuals or companies that place an extremely high value on their time. The Canada Business Aviation Association (CBAA) estimates that over 1,900 business aircraft are in operation in Canada as of 2017. Through aircraft ownership, partnerships, ad hoc charters, and other mechanisms, corporate aircraft can be used to travel to destinations such as Golden from across Canada and the United States. While business aviation experienced a significant decline in early 2020 as a result of COVID-19, analysts are predicting a rapid recovery at a pace that exceeds that of the broader air travel industry, partly because social distancing measures can be more easily practiced on private aircraft.

Fractional aircraft ownership is a growing form of corporate aviation. Through fractional ownership agreements, individuals purchase a share of an aircraft managed by a company that entitles them to a set number of hours per month or year. Fractional ownership decreases the barrier to entry versus owning an aircraft outright. Canadian fractional ownership company AirSprint was founded in 2000 and has experienced considerable growth, now operating a fleet of over 15 Embraer Legacy and Cessna Citation aircraft. Other businesses such as Jettly are adopting subscription-based models, matching aircraft operators with prospective users via a mobile application.

Golden Airport is an asset with respect to the growth in corporate aviation and fractional ownership, as the facility enables access to Golden for individuals with significant disposable incomes that assign a high value to their time. Continued growth in this sector may result in additional visitors that choose Golden as their vacation destination making use of the Airport.



Cessna Citation (left) and De Havilland Canada Dash 8 (right)

COVID-19

The COVID-19 pandemic is having wide-reaching health, social, and economic impacts across the country. To limit the spread of the virus in the winter and spring of 2020, travel restrictions and recommendations were imposed in Canada to limit interprovincial and international movement. Non-essential businesses were also shut down, with a phased reopening underway at the time of this report's preparation. The full breadth and depth of the impacts of COVID-19 are still not fully known given the rapidness of the pandemic's beginning and the urgent response effort required.

As Golden Airport does not support scheduled passenger air services, it has not experienced the downturn experienced at commercial airports across the country. Revenues are almost entirely derived from multi-year land lease agreements, removing short-term financial instability. However, challenges may be experienced at Golden Airport in the coming years through:

- Reduced aircraft movements because of travel restrictions, including border restrictions and quarantine requirements;
- A downturn in the tourism affecting Alpine Helicopters, Whitetooth Helicopters, and Skydive Extreme Yeti; and
- The need to implement safe-work practices for on-site maintenance and operations.

Conversely, international travel restrictions may result in an increase in domestic tourism which could partially offset the above-noted matters. Nonetheless, COVID-19 has resulted in unprecedented impacts to passenger air travel volumes, creating a ripple effect within the aviation and tourism industries. The Canadian Airports Council estimates that it could take four to five years until passenger air travel activities returns to levels experienced in 2019.

Aerodrome Approval Processes

The closure of Golden Airport and subsequent opening of an aerodrome in a new location (or reopening of Golden Airport in the future), must be considered in the context of the governmental approvals process. There are significant challenges to designing, constructing, and commissioning an airport – substantial financial commitments and a lengthy approval process are two such examples.

The Impact Assessment Act and accompanying Physical Activities Regulations (SOR/2019-285) require that the proponents of new aerodromes of set specifications proceed through a federal Impact Assessment. The triggering of an assessment, while a valuable exercise to gain a comprehensive understanding of the externalities of a new aerodrome, introduces a new layer of complexity and will extend the timelines to receive all necessary regulatory approvals.

Furthermore, amendments to the CARs in 2017 also introduced new requirements for aerodrome proponents. The CAR 307 process now requires consultations with Transport Canada, NAV CANADA, nearby aerodrome operators, the local land use authority, and members of the public within 4,000 m of the new aerodrome site. Transport Canada will review the provided materials to determine whether the CAR 307 consultation process has been adequately followed. The Minister of Transport may prohibit the proposed aerodrome project per Section 4.3.1 of the Aeronautics Act if it is deemed to be unsafe or not in the public interest. The public interest, per AC No. 307-001, includes the consideration of economic, social, and environmental factors.

Taken together, the Impact Assessment Act and CAR 307 consultation process will result in significant challenges with securing the approval of a new aerodrome should Golden Airport be closed, in addition to provincial and municipal requirements. These challenges would also apply to the reopening of Golden Airport if it were closed. In addition, the topography surrounding Golden would result in challenges in identifying a suitable parcel of land to support an adequate runway length and IFPs that would provide a level of service equal to, or better than that currently available at Golden Airport.

9 DEVELOPMENT AND REVENUE GENERATION OPPORTUNITIES

Potential development and revenue generation opportunities have been identified for Golden Airport to serve as inputs in the Business Case Analysis. The level of effort and investment required to pursue each opportunity varies, and actions required to attain the opportunities associated with the business case selected by Town Council could be identified through a subsequent Strategic and Tactical Plan.

9.1 Aeronautical Opportunities

Research, stakeholder consultations, and the project team's understanding of regional airports have resulted in the identification of opportunities for new aviation-related development and revenue generation that have the potential to:

1. Improve the economic impact of Golden Airport;
2. Provide additional social benefits; and / or
3. Generate operational revenue to improve the Airport's financial performance.

Table 9.1 lists each of the identified aeronautical development and revenue generation opportunities applicable to Golden Airport, including a description of the potential economic, revenue, and social benefits, as well as the likelihood of attaining this opportunity.

Table 9.1 - Aeronautical Opportunities

Opportunity	Economic Benefits	Social Benefits	Revenue Benefits	Likelihood of Attainment
Development Lot Absorption	Dependent on tenant	Dependent on tenant	Yes	Medium
Aeronautical Fees	No	No	Yes	High
Corporate and General Aviation	Yes	No	If aeronautical fees are implemented	Medium
Flight Training and Aviation Education	Yes	Yes	If aeronautical fees are implemented	Low
Charter Passenger Air Services	Yes	Yes	If aeronautical fees are implemented	Low

9.1.1 Development Lot Absorption

Consultations with Town Staff and Airport stakeholders identified demand for additional development lots to support new hangars and the expansion of the facilities of current tenants. Lease rates at Golden Airport were last reviewed in September 2015, with three rates established:

- Federal and Provincial Government: \$0.95 per m²
- Non-Profit, Individual, and Organization: \$1.10 per m²
- Corporate and Commercial: \$2.20 per m²

New development at Golden Airport for tenants, businesses, and organizations will result in additional leasehold revenue to the Town, assisting in reducing the annual cost-revenue operational funding gap. The economic and social benefits of this opportunity will vary according to the tenant(s) that develop at the Airport; a new or expanded aviation recreation provider, for example, could contribute to the region's tourism economy. Examples of prospective tenants could include, but are not limited to:

- Private aircraft hangars;
- A Fixed-Base Operator supporting corporate and private aircraft;
- A charter aircraft operator;
- An aircraft maintenance organization; and
- A rotary-wing or fixed-wing flight training unit.

Action required by the Town of Golden would include updating current lease rates, designating lots for lease that respect a long term development plan, preparing lots in a staged and demand-driven manner, marketing the availability of development parcels, and entering into land lease agreements with new tenants. The lack of residual capacity with the municipal potable water and sanitary sewer systems at the Airport may result in the requirement for municipal servicing upgrades, depending on the future desired use.

9.1.2 Aeronautical Fees

Unlike many regional airports similar to Golden, user fees are not currently in place at Golden Airport. Examples of user fees utilized at airports across Canada include landing, parking, and terminal fees. A rates and fees structure could be implemented to capture revenue from aircraft movements, creating an environment where Airport users partially contribute to its operational costs. A rates and fees structure should be competitive to other nearby airports (e.g. Revelstoke Airport, Fairmont Hot Springs Airport); not deter tenants, businesses, and aircraft owners from operating; and should be implemented in such a way as to not significantly increase the administrative requirements of the Town. The primary advantage is the collection of revenue to reduce the annual cost-revenue operating deficit and to create a fair and transparent process where all appropriate users contribute to the costs of operating and maintaining the facility. Action required by the Town would include the completion of a rates and fees review, adoption of an airport fees bylaw, and implementation of a revenue collection process or system.

9.1.3 Corporate and General Aviation

Golden Airport currently supports itinerant corporate and general aviation aircraft visiting from other communities in Canada and the United States. For example, Golden Airport facilitates travel for individuals flying to engage in tourism and recreation activities, visiting family and friends in the region, and travelling to a second seasonal residence. Supporting this market segment offers economic benefits as travellers patronize local hospitality and tourism businesses and spend within the community.

The recreational flying community in Canada also can increase traffic at Golden Airport. Recreational pilots across the country often travel to airports simply for the experience. While the economic benefits may be small as general aviation aircraft typically carry less than four people, recreational pilots can represent a source of activity and revenue for Golden Airport. This also includes organized fly-outs, where numerous aircraft travel together to an airport – these activities are often organized by local flying clubs and chapters of the Canadian Owners and Pilots Association (COPA). Similar to attracting corporate and general aviation, economic benefits may be realized as itinerant aircraft operators and their guests patronize local businesses.

9.1.4 Flight Training and Aviation Education

Flight Training

Flight training units (FTUs) provide specialized education to pilots according to prescribed Transport Canada curriculum standards. Golden Airport's unique geographic setting is an opportunity for specialized mountain flight training for helicopter or fixed-wing pilots. The establishment of a new FTU or a satellite campus of an existing institution could significantly increase activity at Golden Airport while also supporting the regional economy through job creation, students patronizing local businesses, and synergistic benefits with other Airport businesses (e.g. fuel sales).

Golden Airport is also a destination for student pilots completing their cross-country training requirements. Marketing the airport to FTUs and student pilots within Alberta and British Columbia could increase the number of itinerant aircraft movements; if an aeronautical fees structure is implemented, additional operational revenues could be realized, along with increased economic benefits to the community.

Aviation Education

A partnership between Golden Secondary School and / or the College of the Rockies and an organization at the Airport (e.g. GADSAR, Alpine Helicopters) could be an integrated aviation education opportunity. From consultations with School District 6 – Rocky Mountain, it is understood that Golden Secondary's small student population is conducive to experiential course offerings; historical examples include students receiving credit for lifeguard and avalanche training. The College of the Rockies is also renowned for its experiential education opportunities. This system has been used at other communities, including:

- Boundary Bay, BC: Surrey Schools and Canadian Flight Centre offer an aviation ground school program;
- Thunder Bay, ON: Lakehead Public Schools and Confederation College offer an aviation skills major; and
- London, ON: Thames Valley District School Board offers a wide-ranging aviation series of courses which address content such as aircraft maintenance, pilot training, and Unmanned Aerial Vehicles.

While not an opportunity with direct revenue implications for the Town of Golden, this option can improve the social benefits of the Airport by offering an innovative learning experience for students interesting in the aviation industry as a career. This also positions the Airport as a more integrated and visible asset of the community.



Flight training aircraft at Red Deer Regional Airport

9.1.5 Charter Passenger Air Services

Charter passenger air services involve the transportation of passengers through a contract under which an individual or organization purchases a block of seats for their use, or resale to the public. Charter passenger air services are tailored to the needs of the customer(s) who determine the origin, destination, capacity required, and schedule. Charter services include ad hoc flights operated according to the customer's needs, as well as scheduled charters where multiple predetermined flights are operated.

The CARs permit charter services at Registered Aerodromes such as Golden Airport, as opposed to scheduled passenger air services. The infrastructure requirements to support charter passenger air services can vary widely; ad hoc flights may require simple accommodations such as a location to support aircraft parking and passenger enplaning / deplaning, whereas higher volume charter passenger services may require additional amenities including space in a terminal building for passenger processing.

Charter passenger air services facilitate the movement of visitors to Golden with accompanying economic benefits as these groups and individuals spend money within the region. The operation of charter passenger air services can also offer social benefits to residents of Golden and Area A by providing a new transportation and access option. With the implementation of an aeronautical rates and fees structure, charter aircraft movements can also generate additional revenue for the Town.

In terms of attracting charter passenger air services to Golden Airport, two options are available to the Town:

1. Take steps to ensure that the Airport can accommodate charter traffic and not disincentivize operators. This includes tasks such as the year-round maintenance of the Airport, establishing a contact person and runway surface condition reporting procedures, the provision of aircraft parking, and working with prospective operators based on their unique needs.
2. The Town considers partnering with the private sector and organizations such as Tourism Golden to secure a charter passenger air service, similar to the winter seasonal services to Vancouver offered from Revelstoke. This would require the Town to take a leadership role in arranging a partnership and may require financial guarantees in the event the service operates at a loss. Based on anticipated market demand, requirement for financial incentives, and Airport availability and infrastructure, this approach is not currently recommended for further exploration.

9.1.6 Scheduled Passenger Air Services

Scheduled passenger air services involve the transportation of passengers by an air carrier that offers aircraft seats on a unit toll basis, to the public. These services generally operate between predetermined origins and destinations at a set schedule. Air Canada, WestJet, and Pacific Coastal Airlines are examples of air carriers that provide scheduled services within Canada, although they do also operate charter flights.

The provision of air carrier services to destinations such as Vancouver, Kelowna, and Calgary were commonly identified as a request through the online consultation surveys. As examined previously, the nearest airports with scheduled air carrier services include Cranbrook, Calgary, and Kelowna. The launch of scheduled passenger air services to Golden is challenged by multiple factors, including but not limited to the:

- Lack of passenger processing and aircraft ground handling infrastructure;
- Airport's non-certified status; and
- Inability to accommodate nighttime operations and availability in inclement weather.

While the infrastructure of Golden Airport could be systematically upgraded to support scheduled passenger air carrier services, the successful attraction of an airline to serve Golden is not guaranteed. Air Canada's withdrawal from markets such as Lethbridge, Red Deer, and Medicine Hat and retirement of its Beechcraft 1900 and Dash 8-100 fleets indicates that entering new regional markets is not a priority for the airline. The recent launch of WestJet Link indicates that WestJet is exploring the viability of regional markets, although long-term success remains to be proven. The air travel downturn caused by the COVID-19 pandemic is expected to last for several years and will likely result in air carriers being more risk adverse in launching service to new markets. Finally, the business case of an airline route to Golden is dependent on enough travellers willing to use the service at a price that can be sustained by the carrier.

While accommodating scheduled passenger air services at Golden Airport is not impossible, the capital costs associated with addressing the facility's deficiencies, combined with ongoing increased operational expenses from maintaining a Certified Airport would result in significant capital and operational funding requirements higher than those currently experienced. Accordingly, this report does not consider the pursuit of scheduled passenger services as a viable opportunity for Golden Airport.

9.2 Non-Aeronautical Redevelopment

HM Aero has considered potential opportunities for decommissioning Golden Airport and repurposing the lands for other purposes, such as residential, commercial, industrial, and public uses.

Residential Uses

Additional demand for residential properties within Golden is anticipated given historical and projected increases in the Town's population. The Golden Official Community Plan establishes the goal of providing a range of housing types, tenures, and densities that meet the diverse needs of individuals and families. The Airport site could be converted for residential usage; an example of an airport that has been redeveloped for residential use is Edmonton Municipal Airport / Blatchford Field, a 216-hectare site that will accommodate approximately 30,000 residents and a mix of other land uses.

Estimating the residential development potential of the Airport property is highly variable based on the assumed housing stock, site constraints such as undevelopable areas, required setbacks from the CP railway line, high water tables and the close proximity of the Columbia River, the need for neighbourhood amenities (e.g. parks), and the area required for roads and municipal services. Assuming a density of 20 single-detached dwelling units per hectare and a total developable area of 18 hectares, the site could accommodate approximately 360 dwelling units. Based on an assumed average household size of 2.3 persons from the 2016 census, approximately 830 additional residents could be accommodated. These values may vary widely in an actual development proposal and have been presented for discussion purposes only.

By designating the property as a comprehensive development site, planned and systematic redevelopment for residential purposes may occur. From a residential development perspective, positives include the proximity of the site to Confluence Park, the Columbia River, and Kicking Horse River, and the rare opportunity for a comprehensively designed greenfield community.

Challenges with redeveloping the property for residential uses include, but are not limited to:

- Actual vs. forecast market demand for housing in Golden;
- Marketing the site and finding developers with the appropriate resources;
- Potential environmental contamination and remediation;
- The proximity of the railway line and associated noise disturbances;
- Limited access to the town via Fisher Road and the need for a new alternate roadway and/or grade separated crossing to support emergency access and egress;
- The high water table and associated floodproofing measures;
- Greenfield residential expansion is inconsistent with the environmental sustainability goals of the Official Community Plan and prioritization of infill development; and
- The site would require full municipal servicing, new roadways, and amenities such as parks, increasing the Town's lifecycle asset management obligations.

Commercial and Industrial Uses

The diversification of Golden's economy and provision of adequate employment opportunities is key to the future viability of the municipality. The Official Community Plan contains policies to encourage and promote commercial and industrial development in a manner that is compatible with environmental, community, and lifestyle goals.

The distance of the property from sensitive residential uses and proximity to other industrial uses, including the CP railway yard and Golden Wastewater Treatment Plant, are favourable factors for industrial and commercial uses. The property could be conducive to large format uses such as retail, warehousing, self-storage, and transportation and logistics facilities. However, the viability of the site for commercial or industrial purposes is reliant on sufficient demand from prospective developers and users - designating the site for such uses alone will not necessarily result in its redevelopment.

Several of the previously noted constraints for residential development are also applicable for commercial and industrial uses, including market demand, securing a developer, environmental remediation, the water table, and servicing requirements. In addition to those criteria, access to the property via Fisher Road would require transport trucks and large vehicles to travel through several residential streets from the TCH and Highway 95. The capacity of Fisher Road and other municipal streets to handle large volumes of commercial and industrial traffic is unknown.

Municipal and Public Uses

While the previous scenarios for residential, commercial, and / or industrial development contemplate the sale of the Airport site to private entities for redevelopment, the land could also be retained by the Town following the facility's decommissioning. If ownership continues to be held by the Town, the site could be transitioned to become a public amenity, such as:

- A park or greenspace, which could include the adaptive reuse of Airport infrastructure such as the runway for recreational activities. Parts of the site could also be naturalized and replanted to improve the ecological benefit of the property and integrate features such as adaptive-inclusive trails;
- A location for public recreation facilities, such as sports fields or the potential indoor aquatic centre currently being studied by the Town and CSRD through the Golden On Deck project; and / or
- The use of the property for future municipal core infrastructure needs (e.g. water treatment, wastewater treatment).

10 BUSINESS CASE ANALYSIS

The future direction of Golden Airport can be addressed through a business case analysis that considers different scenarios. Using separate combinations of the development and revenue generation opportunities identified in earlier sections, three unique business cases have been prepared to illustrate various futures for Golden Airport. To determine the business case that provides the strongest contribution to the social and economic well-being of Golden and Area A, each business case is evaluated through a standardized set of criteria.

10.1 Business Case Options

Three business case options have been evaluated for Golden Airport based the project team's research, consultations, and industry experience:

1. Option 1 – Airport Closure, Full Redevelopment
2. Option 2 – Helicopter Operations, Partial Redevelopment
3. Option 3 – Status Quo (Airport Retention)

10.1.1 Option 1 – Airport Closure, Full Redevelopment

Option 1 involves the closure and decommissioning of Golden Airport, with the complete termination of aviation activity at the site. The property, as a Town-owned asset, could be offered for sale and redevelopment for residential, commercial, industrial, or other uses described in Section 9.2. In a successful closure scenario:

- A highest and best use analysis and market study would be completed to further explore the most appropriate redevelopment scenario;
- The Airport's infrastructure would be decommissioned, and the property would be remediated;
- The site would be redesignated in the Official Community Plan and Zoning Bylaw to permit new uses, and a master planning exercise may be completed; and
- Over several years, the property would be redeveloped through involvement by the Town and the private sector.

Assuming that the property is sold for redevelopment, the Town would no longer be responsible for the operation and funding of the Airport. Capital projects directly related to the Airport would not be required (e.g. runway rehabilitation), although select redevelopment scenarios such as residential development would require capital investments in servicing and infrastructure, with associated lifecycle asset management implications. The implications of this business case would be described in a subsequent Airport Transition Plan.

10.1.2 Option 2 – Helicopter Operations, Partial Redevelopment

In Option 2, Runway 14-32 would be decommissioned, and the infrastructure of the Airport consolidated to solely support helicopter operations at an acceptable level of service to continue serving search and rescue, heliskiing, backcountry lodges, etc. Fixed-wing aircraft would no longer be able to operate in Golden. Similar to Option 1 and subject to the regulatory and infrastructure requirements of the hypothetical heliport, compatible residential, commercial, industrial, and public uses could develop on the property as described in Section 9.2. It is assumed that in Option 2, the Town retains ownership of the heliport and would be responsible for its operation and maintenance – presumably with a decrease in the capital and operational funding required.

10.1.3 Option 3 – Status Quo (Airport Retention)

Option 3 considers the continued ownership and operation of Golden Airport by the Town and availability of the facility to fixed and rotary-wing aircraft. The airside and groundside systems; airport support services; utilities and servicing; and development lots would be preserved, enhanced, or rationalized as required according to recommendations presented in a subsequent Strategic and Tactical Plan. Aviation-related development and revenue generation opportunities presented in Section 9.1 would be selectively pursued by the Town and partner organizations according to available resources, strategic goals, and other constraints. The property would not be available for redevelopment to the uses identified in Section 9.2.

10.2 Business Case Evaluation

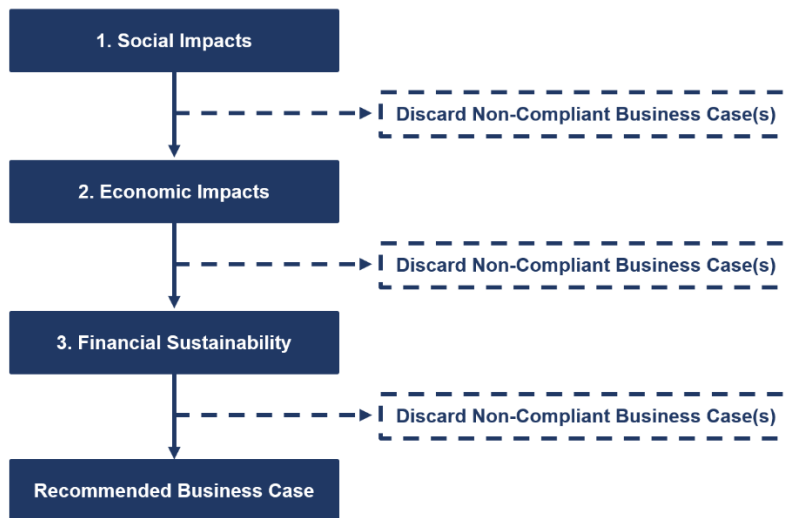
From consultations with Town Council, the residents of Golden and Area A, and stakeholders, a common set of priorities has been identified against which each business case is evaluated and screened for suitability. HM Aero has developed a three-stage evaluation process which will be used for each business case, as described below, and shown in Figure 10.1.

1. **Social Impacts:** A business case should not compromise air ambulance, Search and Rescue, wildfire suppression, and emergency management operations.
2. **Economic Impacts:** A business case should maintain or increase the economic benefits already afforded to the region.
3. **Financial Sustainability:** The operating and capital expenses of a business case should be reasonable and comparable to other airports in Canada that serve a regional catchment area and provide social and economic benefits.

At each step, any business case that fails to meet the specified criteria will be discarded from further evaluation. This methodology ensures that a business case cannot be deemed suitable unless the three criteria are satisfied – this ensures that the Airport will continue to provide the essential social services and economic benefits to the residents of the Town of Golden and Area A.

It is important to note that while Golden Airport has been identified as a critical diversion facility for aircraft transiting the TCH and Highway 95 VFR navigation routes (Section 3.7), this role was not included within the evaluation process. While airports are inseparable from the functioning of Canada's air navigation system, Golden Airport is also conceptualized as a public asset that must first meet the needs of the Town and Area A. Accordingly, the evaluation process and criteria are framed to first address the priorities of the community that it serves.

Figure 10.1 - Business Case Evaluation Methodology



10.2.1 Stage 1 – Social Impacts

Option 1 – Airport Closure, Full Redevelopment

Air Ambulance Operations

In Option 1, fixed-wing aircraft operated on behalf of B.C. Air Ambulance such as the Beechcraft King Air would no longer be able to operate at Golden Airport. Patients requiring a transfer to a hospital with a higher level of care would have to:

- Travel by ground ambulance;
- Be transported by ground ambulance to another airport for onward transportation by fixed-wing air ambulance; or
- Be flown by helicopter from Golden & District Hospital.

Air ambulance impacts with Option 1 would include, but not be limited to:

- The loss in operational flexibility for patient transfers in that one mode of transportation (fixed-wing air ambulances) is removed from the community;
- The need to improve or relocate the heliport at Golden & District Hospital to accommodate a more diverse range of air ambulance helicopters, such as the AW139 (STARS), Bell 212 (B.C. Air Ambulance), and single-engine helicopters;
- Delays in patient movements based on ground ambulance availability and travel times;
- The loss of select aeromedical capabilities including the infant care team which travels by fixed-wing aircraft;
- The inability to support nighttime operations by STARS; and
- The loss of refuelling capabilities for air ambulance helicopters.

Search and Rescue

GADSAR could choose to stay at its present location or relocate elsewhere, depending on the form that a redevelopment proposal would take and the lands retained by the Town, if any. Impacts could include:

- Airborne SAR missions would require GADSAR to rendezvous with a helicopter at a new landing zone, which would involve the transportation of its team members and equipment to that site and negatively impact response times;
- Several helicopter types commonly used in SAR (e.g. Bell 407) returning with injured persons would have to land at a new landing site and transfer the patient to a ground ambulance for onward transportation unless the Golden & District Hospital heliport is upgraded and / or relocated;
- Direct transfers between SAR helicopters and fixed-wing air ambulance aircraft could not occur; and
- Based on consultations with GADSAR, the overall operational flexibility and capabilities of the organization would decrease. GADSAR is heavily reliant on the synergistic benefits of being colocated with its aviation service provider, Alpine Helicopters.

Wildfire Suppression

The closure of Golden Airport would require that the Southeast Fire Centre Forward Attack Base be decommissioned. The relocation of the wildfire base to another location in the region would be at the discretion of the Province of British Columbia and would not be guaranteed, depending on the costs, operational benefits, and other factors. Assuming that the Forward Attack base is closed outright, the operational capabilities of the Province in mounting wildfire suppression efforts in the region would decrease as helicopters would have to travel to an alternate airport or landing zone, such as Revelstoke or Fairmont Hot Springs, to refuel and conduct crew changes.

Emergency Management

Option 1 would remove the ability for fixed and rotary-wing aircraft to be used in support of emergency management efforts in Golden and the region, such as responding to natural disasters. Emergency management professionals responding to an incident in Golden would have to travel by ground from an alternate airport. Furthermore, the availability of Golden Airport for emergency evacuations due to nearby wildfires or other natural disasters would be removed.

Result

Significant negative social impacts could be realized with the closure of Golden Airport. These impacts are primarily due to the loss of fixed-wing air ambulance services and decreased rotary-wing level of service, decreased SAR level of service without an on-site helicopter provider, and the loss the wildfire suppression base.

Option 2 – Helicopter Operations, Partial Redevelopment

Air Ambulance Operations

Similar to Option 1, fixed-wing air ambulance aircraft would not be able to serve Golden in Option 2. Patients would be transferred by ground ambulance; by fixed-wing air ambulance from another airport; by helicopter from Golden & District Hospital; or by helicopter from the modified Golden Airport. Air ambulance impacts with Option 2 could include:

- The loss in operational flexibility for patient transfers;
- Delays in patient movements due to the use and availability of ground ambulances; and
- The loss of select aeromedical capabilities that require fixed-wing aircraft, such as the specialized infant care team.

Assuming that proper planning, capital investments, and facility design steps are taken in Option 2, improvements versus Option 1 could include:

- Nighttime operations by STARS could potentially continue;
- Helicopter fuelling capabilities could be retained; and
- Improvements to the Golden & District Hospital heliport could be deferred assuming a full range of helicopters could continue to operate at the redesigned Airport property.

Search and Rescue

Assuming the helicopter operators currently located at Golden Airport stay at the facility and that an appropriate level of aviation service can be provided, GADSAR operations could continue to occur in Option 2 with fewer negative impacts compared to Option 1. The primary deficiency in this scenario is the inability for GADSAR to interface with fixed-wing aircraft, such as RCAF and B.C. Air Ambulance aircraft supporting SAR operations.

Wildfire Suppression

With the retention of part of Golden Airport as a heliport and if supporting services (e.g. fuel) continue to be provided, the Southeast Fire Centre Forward Attack Base could continue to support helicopters engaged in wildfire suppression. Option 2 would preclude operations by fixed-wing wildfire aircraft (e.g. observation aircraft), although it is understood that such activities are currently uncommon.

Emergency Management

Helicopter operations could continue to occur in support of incident responses in Golden and Area A, while the use of fixed-wing aircraft to transport emergency management professionals would no longer be possible. Similar to Option 1, the availability of Golden Airport for fixed wing emergency evacuations during a natural disaster would be removed.

Result

Although not considered to be as significant as with Option 1, Option 2 results in negative social impacts to Golden and Area A in terms of the inability to support fixed-wing air ambulance operations and rotary-wing to fixed-wing SAR transfers.

Option 3 – Status Quo (Airport Retention)

Air Ambulance Operations

The current air ambulance level of service described in Section 3.5.2 is preserved in Option 3, with both fixed and rotary-wing aircraft operating for B.C. Air Ambulance and STARS able to serve the community.

Search and Rescue

The current SAR level of service and operational flexibility is preserved in Option 3 and negative impacts to GADSAR are not anticipated.

Wildfire Suppression

The retention of Golden Airport allows for the continued operation of the B.C. Wildfire Service Forward Attack Base and on-site helicopter providers that operate on behalf of the Province and Parks Canada.

Emergency Management

In Option 3, Golden Airport continues to function as a transportation asset in support of emergency management activities on an as-required basis.

Result

Option 3 results in the continued provision of the current level of service in terms of air ambulance, search and rescue, wildfire suppression and emergency management – four social benefits that are considered critical to the residents of Golden and Area A.

Outcome

Options 1 and 2 were found to have significant negative social impacts to the residents of Golden and Area A, as illustrated in Table 10.1. As a result, Options 1 and 2 have been discarded and Option 3 has been advanced to Stage 2 for further evaluation.

Table 10.1 - Social Impact Evaluation Summary

	1 – Airport Closure, Full Redevelopment	2 – Helicopter Operations, Partial Redevelopment	3 – Status Quo (Airport Retention)
Wildfire Suppression	✗	✓	✓
Air Ambulance Operations (Fixed-Wing)	✗	✗	✓
Air Ambulance Operations (Rotary-Wing)	↓	✓	✓
Search and Rescue	↓	↓	✓
Emergency Management	✗	↓	✓
✗ = Loss of service ↓ = Reduced level of service ✓ = Equivalent level of service			

10.2.2 Stage 2 – Economic Impacts

Option 3 – Status Quo (Airport Retention)

As described in Section 3.6.4, the total annual economic impact of the tenants at the Airport has been estimated at 27 FTE positions, \$2,500,000 in labour income, and \$3,000,000 in regional GDP contributions. The ongoing operation of Golden Airport will enable the facility to serve as a regional economic driver by:

- Supporting intercommunity air transportation by corporate and general aviation aircraft, thereby facilitating tourism, business travel, and other activities. Over 600 itinerant aircraft land at the Airport per year;
- Facilitating the continued operation of aviation businesses supporting recreational activities including Skydive Extreme Yeti, which supports over 1,200 customer experiences annually;
- Enabling locally based helicopter operators to support regional tourism, including heliskiing providers and 15 backcountry lodges. These organizations are vital to the tourism component of Golden's economy which is estimated to contribute approximately \$88,000,000 annually to the regional GDP;
- Providing a base of operations for helicopters engaged in logistical support to organizations such as Parks Canada; and
- Ensuring that SAR and air ambulance services can be provided in a timely manner to address the risks associated with extreme outdoor recreation activities that are common in the region and a popular part of the tourism sector.

The economic impact of Golden Airport to the region can potentially be increased in Option 3 through the expansion of current businesses; the opening of new businesses engaged in transportation, tourism support, and aviation recreation (e.g. Kicking Horse Aviation); and through the pursuit of select opportunities such as charter passenger air services and corporate aviation.

Result

The economic benefits realized in Golden and Area A resulting from the operation of Golden Airport are significant. Research, analysis, and stakeholder consultations indicate strong connections between the adventure tourism sector and the Airport that result in positive economic impacts. Option 3 maintains these benefits.

Outcome

Option 3 – Status Quo (Airport Retention) is advanced for further consideration in Stage 3 based on its current and potential future economic impacts to the region.

10.2.3 Stage 3 – Financial Sustainability

Option 3 – Status Quo (Airport Retention)

Between 2015 and 2019, Golden Airport has operated at a deficit of between \$53,000 and \$70,000, with the responsibility for this revenue shortfall being shared by the Town of Golden and the CSRD.

A 20-year pro forma financial statement has been prepared to illustrate the projected financial standing of the Airport within the next 20 years, demonstrating the financial sustainability of Option 3. The 20-year pro forma financial statement is presented in Table 10.2.

Table 10.2 - Status Quo (Airport Retention) Pro Forma Financial Statement

Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Operating Revenues																				
Aircraft Parking Fees	\$1,834	\$2,445	\$2,494	\$2,544	\$2,595	\$2,911	\$2,969	\$3,029	\$3,089	\$3,151	\$3,536	\$3,606	\$3,678	\$3,752	\$3,827	\$4,294	\$4,380	\$4,467	\$4,557	\$4,648
Aircraft Landing Fees	\$2,372	\$3,162	\$3,225	\$3,290	\$3,356	\$3,765	\$3,840	\$3,917	\$3,996	\$4,076	\$4,573	\$4,664	\$4,757	\$4,853	\$4,950	\$5,554	\$5,665	\$5,778	\$5,893	\$6,011
Land Leases	\$47,500	\$47,500	\$47,500	\$49,056	\$49,056	\$53,961	\$53,961	\$57,056	\$57,056	\$57,056	\$62,762	\$66,166	\$66,166	\$66,166	\$66,166	\$78,712	\$78,712	\$78,712	\$78,712	\$80,655
Temporary Use Permits	\$816	\$832	\$849	\$866	\$883	\$901	\$919	\$937	\$956	\$975	\$995	\$1,015	\$1,035	\$1,056	\$1,077	\$1,098	\$1,120	\$1,143	\$1,165	\$1,189
Total Operating Revenues	\$52,521	\$53,939	\$54,068	\$55,755	\$55,889	\$61,539	\$61,690	\$64,939	\$65,097	\$65,258	\$71,865	\$75,451	\$75,636	\$75,826	\$76,019	\$89,658	\$89,877	\$90,100	\$90,328	\$92,503
Operating Expenditures																				
Wages and Benefits	\$7,834	\$7,991	\$8,150	\$8,313	\$8,480	\$8,649	\$8,822	\$8,999	\$9,179	\$9,362	\$9,549	\$9,740	\$9,935	\$10,134	\$10,337	\$10,543	\$10,754	\$10,969	\$11,189	\$11,412
Equipment	\$5,053	\$5,154	\$5,257	\$5,362	\$5,469	\$5,578	\$5,690	\$5,804	\$5,920	\$6,038	\$6,159	\$6,282	\$6,408	\$6,536	\$6,667	\$6,800	\$6,936	\$7,075	\$7,216	\$7,361
Miscellaneous	\$412	\$420	\$428	\$437	\$446	\$454	\$464	\$473	\$482	\$492	\$502	\$512	\$522	\$532	\$543	\$554	\$565	\$576	\$588	\$600
Materials and Supplies	\$7,380	\$7,528	\$7,678	\$7,832	\$7,988	\$8,148	\$8,311	\$8,477	\$8,647	\$8,820	\$8,996	\$9,176	\$9,360	\$9,547	\$9,738	\$9,933	\$10,131	\$10,334	\$10,541	\$10,751
Utilities and Telecommunications	\$13,229	\$13,493	\$13,763	\$14,038	\$14,319	\$14,606	\$14,898	\$15,196	\$15,500	\$15,810	\$16,126	\$16,448	\$16,777	\$17,113	\$17,455	\$17,804	\$18,160	\$18,523	\$18,894	\$19,272
Billing & Administration	\$8,323	\$8,490	\$8,659	\$8,833	\$9,009	\$9,189	\$9,373	\$9,561	\$9,752	\$9,947	\$10,146	\$10,349	\$10,556	\$10,767	\$10,982	\$11,202	\$11,426	\$11,654	\$11,888	\$12,125
Insurance	\$9,598	\$9,790	\$9,985	\$10,185	\$10,389	\$10,597	\$10,809	\$11,025	\$11,245	\$11,470	\$11,700	\$11,934	\$12,172	\$12,416	\$12,664	\$12,917	\$13,176	\$13,439	\$13,708	\$13,982
Contracted Services	\$48,427	\$49,396	\$50,384	\$51,391	\$52,419	\$53,468	\$54,537	\$55,628	\$56,740	\$57,875	\$59,033	\$60,213	\$61,418	\$62,646	\$63,899	\$65,177	\$66,480	\$67,810	\$69,166	\$70,549
Total Operating Expenditures	\$100,255	\$102,260	\$104,305	\$106,391	\$108,519	\$110,690	\$112,903	\$115,161	\$117,465	\$119,814	\$122,210	\$124,654	\$127,148	\$129,691	\$132,284	\$134,930	\$137,629	\$140,381	\$143,189	\$146,053
Operating Deficit																				
Town of Golden Share	-\$22,435	-\$22,711	-\$23,611	-\$23,799	-\$24,736	-\$23,101	-\$24,070	-\$23,604	-\$24,613	-\$25,641	-\$23,662	-\$23,126	-\$24,210	-\$25,316	-\$26,445	-\$21,278	-\$22,443	-\$23,632	-\$24,845	-\$25,168
Columbia Shuswap Regional District Share	-\$25,299	-\$25,610	-\$26,626	-\$26,837	-\$27,894	-\$26,050	-\$27,143	-\$26,618	-\$27,755	-\$28,915	-\$26,683	-\$26,078	-\$27,301	-\$28,548	-\$29,821	-\$23,994	-\$25,309	-\$26,649	-\$28,016	-\$28,381
Total Operating Deficit	-\$47,734	-\$48,321	-\$50,237	-\$50,636	-\$52,630	-\$49,151	-\$51,213	-\$50,222	-\$52,368	-\$54,556	-\$50,346	-\$49,204	-\$51,511	-\$53,865	-\$56,265	-\$45,272	-\$47,752	-\$50,281	-\$52,861	-\$53,549
Core Capital Expenditures																				
Repair Visual Navigation Aids	\$10,000																			
Airside Access Control Measures	\$5,000																			
Upgrade Potable Water and Sanitary Sewer			\$813,496																	
Rehabilitate Runway 14-32						\$1,770,956														
Rehabilitate Taxiways A and B							\$180,460													
Rehabilitate Aprons I, II, and III							\$951,037													
Prepare New Development Lots				\$111,898																
Terminal Building Replacement																\$567,225				
Total Core Capital Expenditures	\$15,000		\$813,496	\$111,898		\$1,770,956	\$1,131,497									\$567,225				

Operating Revenues

The pro forma financial statement considers revenue generation opportunities identified in Section 9.1, including the absorption of new development lots and the implementation of an aeronautical rates and fees structure. The pro forma assumes that:

- Lease rates, parking fees, and landing fees are re-evaluated every 5 years and increase with inflation;
- Aircraft movements recover to 2019 levels in 2022 because of COVID-19, and increase by 2% annually thereafter;
- Landing fees are levied on all itinerant aircraft with separate rates for light single engine aircraft, twin engine and turboprop aircraft, business jets, and helicopters;
- Parking fees are incurred by all aircraft which require overnight parking, which is estimated at 25% of itinerant aircraft landings;
- The three lease types currently charged are consolidated into a single lease rate, based on the \$2.20 per m² annual charge currently levied for commercial tenants;
- One new development lot is absorbed every four years following the upgrading of the municipal potable water and sanitary sewer system; and
- Temporary use permit revenues increase with inflation based on 2019 values.

As shown in Table 10.2, total operating revenues are estimated to increase from approximately \$33,000 in 2019 to \$65,000 in 2030 and \$93,000 in 2040.

Operating Expenses

Operating expenses across eight categories have been estimated for Option 3 – Status Quo (Airport Retention). For each expense category, all or part of the data from 2015 to 2019 is averaged to estimate the baseline value where appropriate, with this total increasing in subsequent years with inflation (2% per year). This method provides a reasonable estimate of the expenses incurred in operating the Airport given current administrative and maintenance practices, without any significant change. Annual operating costs are estimated to increase from \$103,000 in 2019 to \$120,000 in 2030 and \$147,000 in 2040.

Operating Deficit

Based on the assumed operating revenues and expenses, Golden Airport is expected to continue to operate at an annual deficit. The pro forma financial statement assumes that the shared funding model between the Town and CSRD will continue, with the two municipalities paying 47% and 53%, respectively. As shown in Table 10.3, the annual operating deficit of the Airport is expected to remain relatively stable across the 20-year planning horizon, ranging between \$45,000 and \$56,000 per year. Based on the shared funding model, the Town's share of the operating deficit could range between \$21,000 and \$26,000 per year. This level of operating deficit is typical with many municipal and regional airports in Canada and is reasonable given the social and economic benefits of the facility to the region.

Table 10.3 - Airport Pro Forma Operating Deficit

	2017	2018	2019	2021	2030	2040
Total Deficit	\$63,414	\$53,274	\$70,492	\$47,734	\$54,556	\$53,549
Town of Golden Share	\$30,667	\$24,906	\$33,223	\$22,435	\$25,641	\$25,168
CSRD Share	\$32,747	\$28,368	\$37,269	\$25,299	\$28,915	\$28,381

Capital Expenses

Capital cost estimates have been prepared at the Rough Order of Magnitude level based on local unit rates and the professional experience of the project team. Capital projects identified in Table 10.2 are limited to those actions required to preserve the current level of service and infrastructure of Golden Airport. Other capital projects for growth or improved service levels may be identified through a subsequent Strategic and Tactical Plan, depending on the direction of Town Council. Capital costs identified in Table 10.2 do not identify opportunities for grant funding, which will be considered in the Strategic and Tactical Plan.

The capital cost estimates are supported by the following assumptions, with costs provided in 2020 Canadian dollars below:

- **Repair Visual Navigation Aids (\$10,000):** The installation of 12 unlit and frangible airside signs at Runway 14-32 and Taxiways A, B, and C.
- **Airside Access Control Measures (\$5,000):** The development of an Airside Access Plan and procurement of locks and keys for all pedestrian and vehicle gates.
- **Upgrading Potable Water and Sanitary Sewer (\$782,000):** The upgrading of the existing potable water and sanitary sewer lines, including trenching, placing, and backfilling approximately 2,000 linear metres of sanitary sewer and potable water services from a connection point east of Runway 14-32.
- **Rehabilitate Runway 14-32 (\$1,610,000):** The milling and repaving of Runway 14-32, as well as localized crack sealing and granular material improvements.
- **Rehabilitate Taxiways A and B (\$161,000):** The milling, repaving, and localized crack repairs of Taxiways A and B. Taxiway C is excluded and decommissioned.
- **Rehabilitate Aprons I, II, and III (\$849,000):** The milling and repaving of Aprons I and II and reconstruction of Apron III.
- **Prepare New Development Lots (\$106,000):** The clearing, restoration, and regrading of three new development lots without subsurface drainage infrastructure.
- **Terminal Building Replacement (\$399,000):** The replacement of the existing structure with a comparable building at the end of its estimated lifespan (2036), based on the cost estimate prepared in the 2016 Facility Condition Assessment, adjusted for inflation.

The total cost of the core capital expenses identified in Table 10.2, adjusted in 2020 dollars, is estimated at \$3,922,000. These projects may require grant funding from upper levels of government and / or private-sector investment to be realized, given the numerous competing capital priorities that must be addressed by the Town. Funding opportunities, such as the BC Air Access Program and a capital funding partner, will be considered in a subsequent Strategic and Tactical Plan, pending the direction of Town Council.

Result

Option 3 anticipates that Golden Airport will continue to operate at an annual deficit. Based on effective financial management and the attainment of select revenue generation opportunities, the increase in this deficit over time can be minimized.

Outcome

The operating deficit and required capital expenses are reasonable and comparable to that of other airports that serve a similar role and catchment area. As a municipal service, the capital and operating costs of maintaining the facility can be contextualized by its significant social and economic benefits as articulated previously. Accordingly, Option 3 – Status Quo (Airport Retention) passes the third stage of evaluation.

10.3 Recommended Business Case

Based on evaluation process, Option 3 – Status Quo (Airport Retention) is recommended as the preferred business case. This recommendation is made on the basis that:

- With respect to the social benefits to Golden and Area A, continuing to operate the Airport ensures that the full range of air ambulance services (fixed and rotary-wing) will be provided; the wildfire suppression base will be retained; GADSAR can continue to collocate with their rotary-wing partner and interface with fixed-wing aircraft; and emergency management activities can continue;
- The continued operation of Golden Airport maintains the existing economic benefits provided to the region, namely through community access, aviation-related tourism activities, and support for regional tourism providers such as backcountry lodges;
- The revenues, expenses, and municipal funds required to maintain the Airport are forecast to remain relatively stable over the 20-year horizon based on effective financial management and the attainment of select revenue generation opportunities; and
- While not an evaluated criterion, the retention of Golden Airport will continue to position the facility as an asset to Canada's air navigation system.

11 CONCLUSIONS AND RECOMMENDATIONS

The Golden Municipal Airport Assessment and Business Case Report has been prepared through a comprehensive program of research, analysis, and stakeholder engagement activities. As a result, the following can be concluded about the future viability of the Airport:

- The facility plays an important role for residents and visitors to Golden and Area A and should be considered by the Town as both a social and economic asset. Closure of the Airport would result in negative economic and social impacts for the region.
- The Airport supports critical Search and Rescue, wildfire suppression, and medevac services that contribute to the social well being of residents and visitors to Golden and Area A. Without the presence of the facility, fixed wing medevac services would not be provided to the area, substantially increasing patient transfer times to other regional hospitals.
- Many businesses directly or indirectly depend on the Airport – including rotary wing operators engaged in heliskiing, mountain biking and skydiving, and back country lodges. These businesses generate more than 26 FTE positions, \$2.5 million in annual labour income, and more than \$2.9 million per annum in GDP contributions.
- Significant support was shown for the Airport through the stakeholder engagement process. 634 online survey responses were received during the study and 51 stakeholder interviews were completed, with approximately 99% of resident survey participants supporting the continued operation of Golden Airport.
- The Airport's infrastructure is considered to generally be adequate to support current and future operations and businesses, with modest future investment required to complete capital projects such as airside surface rehabilitations and servicing upgrades.
- Although the Airport incurs an annual operating deficit of approximately \$70,000 shared by the Town and the CSRD, this amount is typical of many municipal airports in Canada with similar profiles and traffic levels. Further, the operating deficit must be contextualized by the social and economic benefits the Airport provides to the region, including Golden and Area A.
- While the Airport is a Town-owned asset, the facility has significant regional social and economic benefits that extend to Area A of the CSRD. Although the annual operating funding support of the CSRD is reflective of this consideration, the lack of CSRD funding for capital projects is misaligned with the regional nature of the Airport's benefits.
- In addition to being a social and economic asset to the region, the facility serves an important role as a diversion and emergency landing site for aircraft transiting the east-west TCH and north-south Highway 95 VFR navigation routes.
- The site has challenges that would constrain its development for other uses, including but not limited to the water table, Columbia River floodplain, adjacent railway, and limited access via Fisher Road. Future redevelopment for commercial, industrial, or residential purposes would also require significant site preparations and servicing, increasing the Town's long-term asset management obligations.
- Of the three analyzed business case options, Option 3 – Status Quo (Airport Retention) is recommended based on its economic and social benefits to the Town and Area A.

Considering the foregoing conclusions, the following recommendations are made:

1. Golden Airport should continue to be operated as an aerodrome that serves the social and economic needs of the Town and Area A.
2. A Strategic and Tactical Plan should be prepared that considers matters such as a facility development and renewal plan; administrative and operational improvements; opportunities for funding and governmental support; and business development recommendations.
3. Supported by the Strategic and Tactical Plan, the Town should undertake modest and targeted improvements at the Airport to strengthen the facility's position as an economic driver and improve its social benefits.
4. Strategic discussions should be initiated with the CSRD to establish a capital funding partnership that is consistent with the regional social and economic importance of Golden Airport and the Regional District's additional financial capacity.

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Appendix A - Online Survey Questions



Golden Municipal Airport Viability Study - Resident Survey

HM Aero Aviation Consulting, in coordination with the Town of Golden, is seeking resident feedback for the development of a Viability Study for Golden Municipal Airport. The intent of this Study is to determine whether the Airport has a defensible business case for continued operation, and if so to develop a comprehensive and realistic strategy for its development.

Your views on the current and future operations of Golden Municipal Airport are important to this study. Participation is voluntary and all answers will remain anonymous. The information collected will only be used by HM Aero and the Town of Golden in the context of the Golden Municipal Airport Viability Study. If you have any questions, please contact Ben Crooks at Ben.Crooks@hmaero.ca.

1. Which option best describes your place of residence?

- ☐ Town of Golden
- ☐ Area A
- ☐ Other (please specify)

2. In a few words, what comes to your mind when you think about Golden Municipal Airport?

3. Are you aware of the businesses and services available at the Airport?

- ☐ Yes
- ☐ No

4. Have you made use of Golden Municipal Airport, or one of the businesses and services located at the Airport?

- ☐ Yes
- ☐ No

5. How important is the availability of Golden Municipal Airport to you?

Unimportant

Not Very Important

Moderately Important

Important

Very Important

☐☐☐☐☐

6. In your opinion, what services or features of Golden Municipal Airport are the most important to Golden's economy and residents? Please rank each option from most important (1) to least important (5).



Charter and Business Aviation



General Aviation (e.g. recreational pilots)



Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)



Flight Training and Education



Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)

7. What services or features of Golden Municipal Airport are most important to you? Please rank each option from most important (1) to least important (5).



Charter and Business Aviation



General Aviation (e.g. recreational pilots)



Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)



Flight Training and Education



Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)

8. In your opinion, do residents of Golden value the presence and availability of the Airport?

- ☐ Yes
- ☐ No
- ☐ Unsure

9. In your view, what should be the vision for Golden Municipal Airport in the future?

- ☐ Closure: The Airport should be closed and alternative uses should be explored for the site.
- ☐ Status Quo: The Airport should continue to be operated. No capital rehabilitation or expansion projects should be considered.
- ☐ Life Cycle Extension: The Airport should continue to be operated. Capital projects should be limited to the rehabilitation of existing assets.
- ☐ Growth: The Airport should continue to be operated. Capital projects related to the rehabilitation of existing assets and new projects for business development and growth should be pursued.
- ☐ Other (please describe)

10. In your opinion, are there any specific improvements that should be made at Golden Municipal Airport?

11. Do you have any other comments or feedback you would like to provide regarding the future of Golden Municipal Airport?



Golden Municipal Airport Viability Study - Business Survey

HM Aero Aviation Consulting, in coordination with the Town of Golden, is seeking feedback from local businesses and organizations for the development of a Viability Study for Golden Municipal Airport. The intent of this Study is to determine whether the Airport has a defensible business case for continued operation, and if so to develop a comprehensive and realistic strategy for its development.

Your views on the current and future operations of Golden Municipal Airport are important to this study. Participation is voluntary and all answers will remain anonymous. The information collected will only be used by HM Aero and the Town of Golden in the context of the Golden Municipal Airport Viability Study. If you have any questions, please contact Ben Crooks at Ben.Crooks@hmaero.ca.

1. Which option best describes your business or organization?

- | | |
|---|--------------------------------------|
| <input type="radio"/> Retail | <input type="radio"/> Education |
| <input type="radio"/> Tourism and Hospitality | <input type="radio"/> Transportation |
| <input type="radio"/> Professional Services | <input type="radio"/> Industrial |
| <input type="radio"/> Government | |
| <input type="radio"/> Other (please specify) | |

2. Which option best describes the location of your business or organization?

- ☐ Town of Golden
- ☐ Area A
- ☐ Other (please specify)

3. What service(s) do you provide as a business / organization?

4. How many people does your business employ in Golden?

- | | |
|--------------------------------|--|
| <input type="radio"/> 1 to 9 | <input type="radio"/> More than 50 |
| <input type="radio"/> 10 to 19 | <input type="radio"/> Prefer Not to Answer |
| <input type="radio"/> 20 to 50 | |

5. (Optional) What is the name of your business or organization?

6. In a few words, what comes to your mind when you think about the Airport?

7. Are you aware of the businesses and services available at Golden Municipal Airport?

☐ Yes

☐ No

8. Does your business (and / or your customers) make use of Golden Municipal Airport, or one of the businesses located at the Airport?

☐ Yes

☐ No

9. Is the proximity of your business or organization to Golden Municipal Airport important to you and / or your customers?

☐ Yes

☐ No

10. Did the presence of Golden Municipal Airport influence your business or organization's decision to locate in Golden?

☐ Yes

☐ No

11. In your opinion, what services or features of Golden Municipal Airport are the most important to Golden's economy and residents? Please rank each option from most important (1) to least important (5).



Charter and Business Aviation



General Aviation (e.g. recreational pilots)



Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)



Flight Training and Education



Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)

12. What services or features of Golden Municipal Airport are most important to your business / organization? Please rank each option from most important (1) to least important (5).



Charter and Business Aviation



General Aviation (e.g. recreational pilots)



Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)



Flight Training and Education



Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)

13. In your opinion, do businesses / organizations in Golden value the presence and availability of the Airport?

- ☐ Yes
- ☐ No
- ☐ Unsure

14. In your view, what should be the vision for Golden Municipal Airport in the future?

- ☐ Closure: The Airport should be closed and alternative uses should be explored for the site.
- ☐ Status Quo: The Airport should continue to be operated. No capital rehabilitation or expansion projects should be considered.
- ☐ Life Cycle Extension: The Airport should continue to be operated. Capital projects should be limited to the rehabilitation of existing assets.
- ☐ Growth: The Airport should continue to be operated. Capital projects related to the rehabilitation of existing assets and new projects for business development and growth should be pursued.
- ☐ Other (please describe)

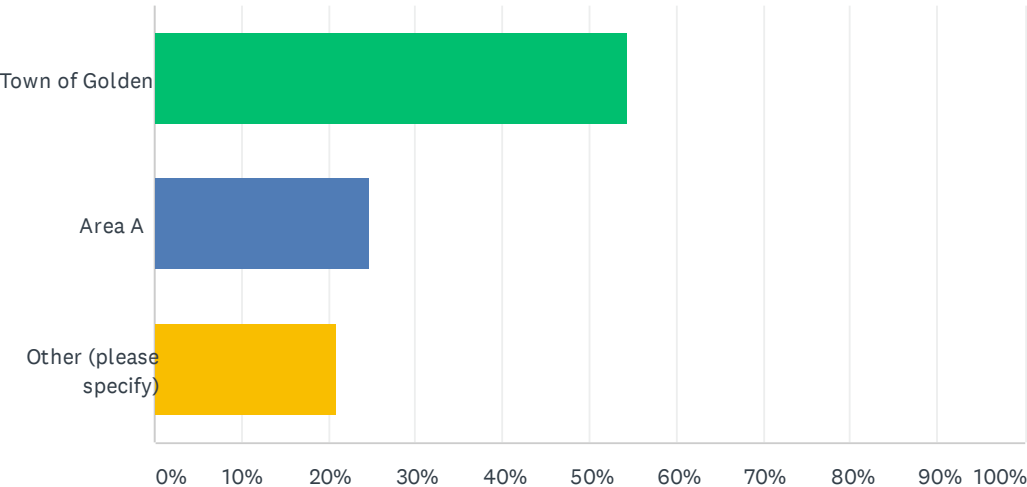
15. In your opinion, are there any specific improvements that should be made at Golden Municipal Airport?

16. Do you have any other comments or feedback you would like to provide regarding the future of Golden Municipal Airport?

Appendix B - Online Survey Responses

Q1 Which option best describes your place of residence?

Answered: 570 Skipped: 1



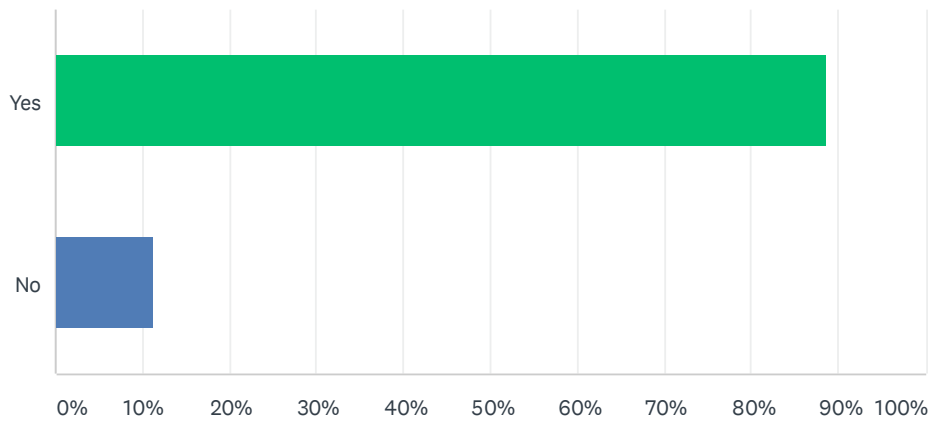
ANSWER CHOICES	RESPONSES	
Town of Golden	54.39%	310
Area A	24.74%	141
Other (please specify)	20.88%	119
TOTAL		570

Q2 In a few words, what comes to your mind when you think about Golden Municipal Airport?

Answered: 556 Skipped: 15

Q3 Are you aware of the businesses and services available at the Airport?

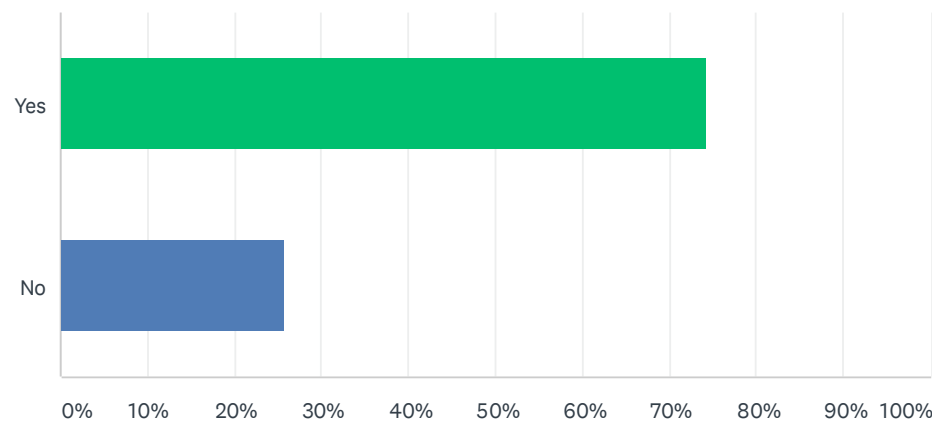
Answered: 569 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	88.75%	505
No	11.25%	64
TOTAL		569

Q4 Have you made use of Golden Municipal Airport, or one of the businesses and services located at the Airport?

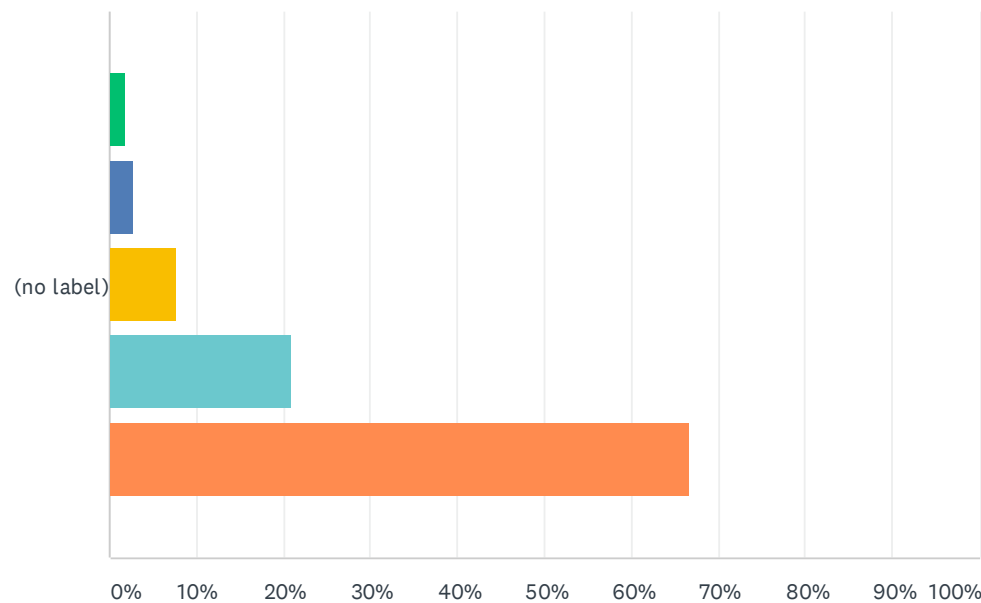
Answered: 569 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	74.34%	423
No	25.66%	146
TOTAL		569

Q5 How important is the availability of Golden Municipal Airport to you?

Answered: 569 Skipped: 2

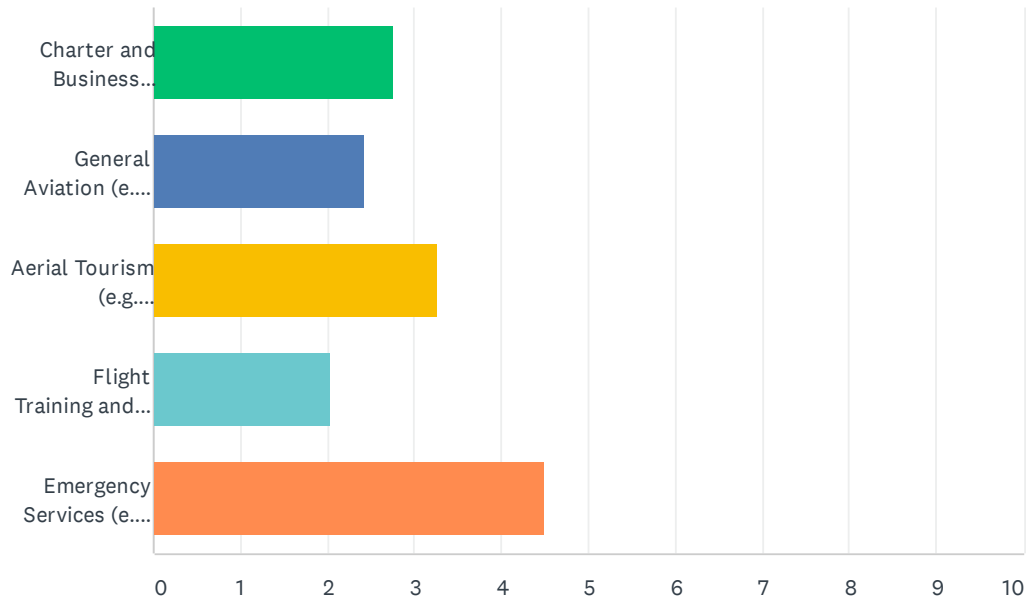


Unimportant Not Very Important Moderately Important Important Very Important

	UNIMPORTANT	NOT VERY IMPORTANT	MODERATELY IMPORTANT	IMPORTANT	VERY IMPORTANT	TOTAL	WEIGHTED AVERAGE
(no label)	1.93% 11	2.64% 15	7.73% 44	20.91% 119	66.78% 380	569	4.48

Q6 In your opinion, what services or features of Golden Municipal Airport are the most important to Golden's economy and residents? Please rank each option from most important (1) to least important (5).

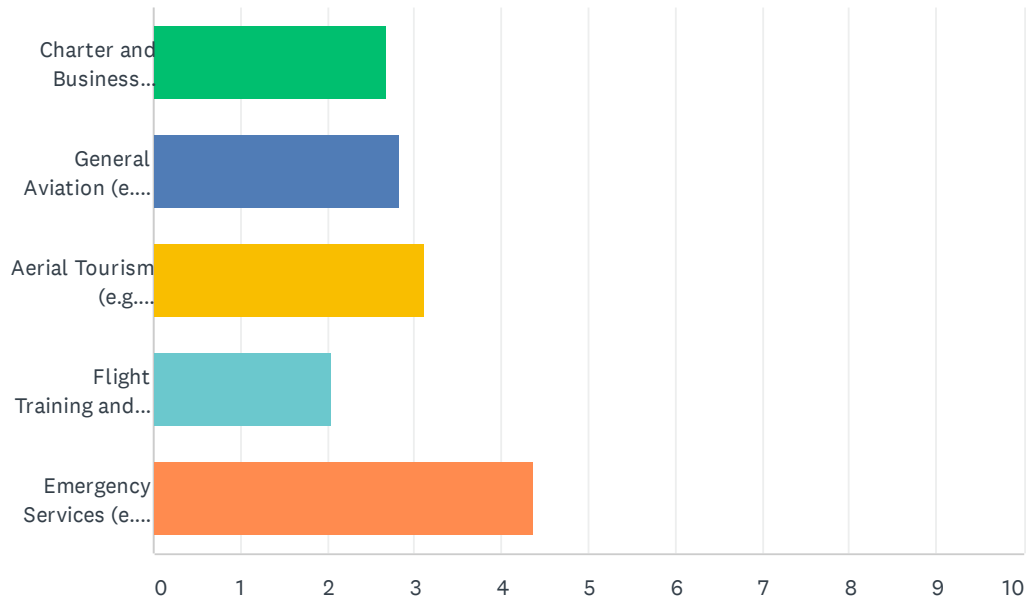
Answered: 569 Skipped: 2



	1	2	3	4	5	TOTAL	SCORE
Charter and Business Aviation	5.12% 28	22.67% 124	31.63% 173	24.68% 135	15.90% 87	547	2.76
General Aviation (e.g. recreational pilots)	6.99% 38	12.50% 68	21.69% 118	33.09% 180	25.74% 140	544	2.42
Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)	7.82% 43	42.55% 234	26.73% 147	14.91% 82	8.00% 44	550	3.27
Flight Training and Education	1.63% 9	13.79% 76	15.43% 85	24.50% 135	44.65% 246	551	2.03
Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)	77.60% 440	8.82% 50	5.11% 29	2.47% 14	6.00% 34	567	4.50

Q7 What services or features of Golden Municipal Airport are most important to you? Please rank each option from most important (1) to least important (5).

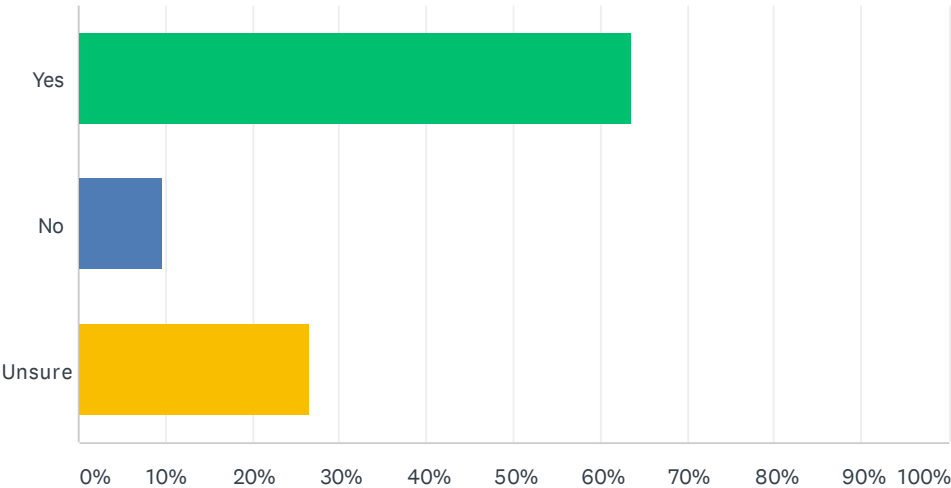
Answered: 564 Skipped: 7



	1	2	3	4	5	TOTAL	SCORE
Charter and Business Aviation	7.14% 38	18.80% 100	28.95% 154	25.19% 134	19.92% 106	532	2.68
General Aviation (e.g. recreational pilots)	14.94% 81	15.87% 86	23.06% 125	28.60% 155	17.53% 95	542	2.82
Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)	6.27% 34	38.75% 210	26.01% 141	17.53% 95	11.44% 62	542	3.11
Flight Training and Education	3.32% 18	11.44% 62	16.42% 89	24.35% 132	44.46% 241	542	2.05
Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)	69.91% 388	14.41% 80	5.77% 32	3.06% 17	6.85% 38	555	4.37

Q8 In your opinion, do residents of Golden value the presence and availability of the Airport?

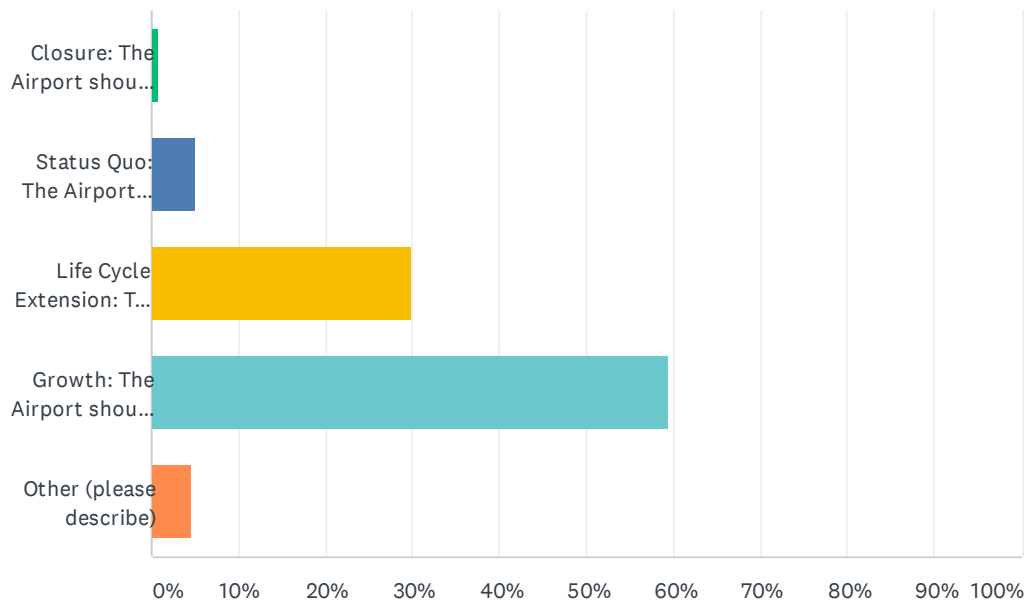
Answered: 570 Skipped: 1



ANSWER CHOICES		RESPONSES	
Yes		63.68%	363
No		9.65%	55
Unsure		26.67%	152
TOTAL			570

Q9 In your view, what should be the vision for Golden Municipal Airport in the future?

Answered: 570 Skipped: 1



ANSWER CHOICES	RESPONSES	
Closure: The Airport should be closed and alternative uses should be explored for the site.	0.88%	5
Status Quo: The Airport should continue to be operated. No capital rehabilitation or expansion projects should be considered.	5.09%	29
Life Cycle Extension: The Airport should continue to be operated. Capital projects should be limited to the rehabilitation of existing assets.	30.00%	171
Growth: The Airport should continue to be operated. Capital projects related to the rehabilitation of existing assets and new projects for business development and growth should be pursued.	59.47%	339
Other (please describe)	4.56%	26
TOTAL		570

Q10 In your opinion, are there any specific improvements that should be made at Golden Municipal Airport?

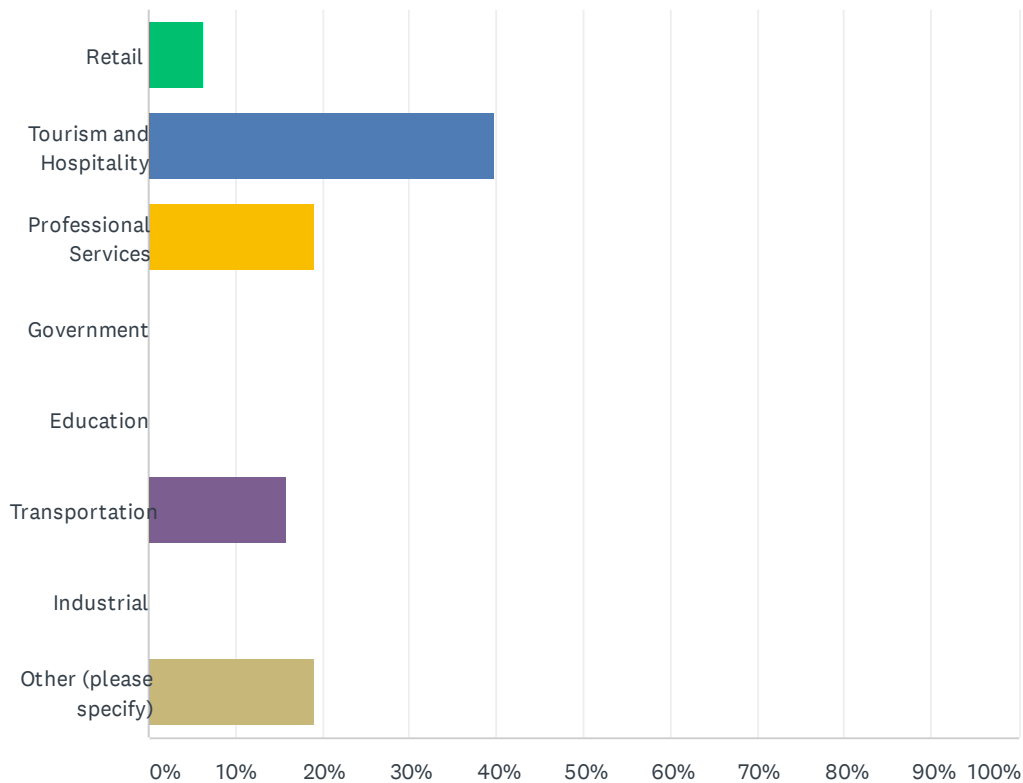
Answered: 421 Skipped: 150

Q11 Do you have any other comments or feedback you would like to provide regarding the future of Golden Municipal Airport?

Answered: 382 Skipped: 189

Q1 Which option best describes your business or organization?

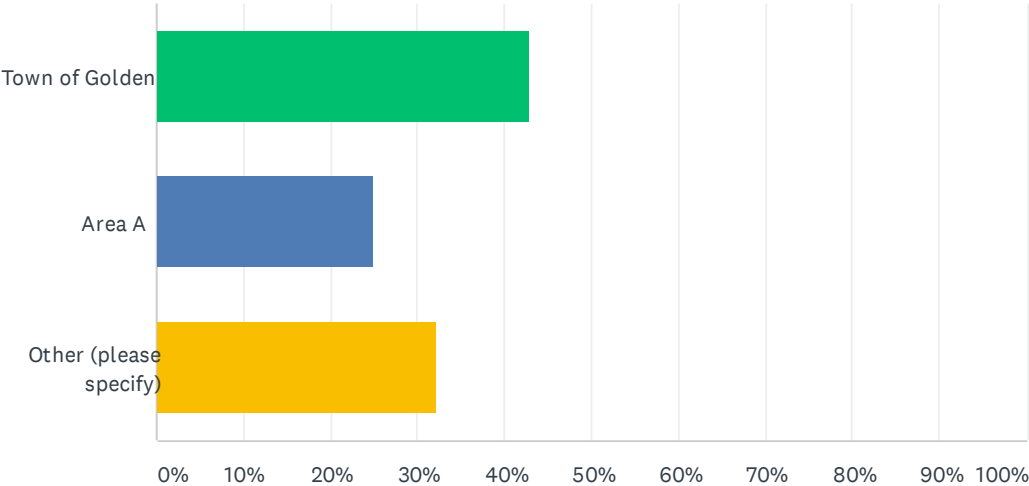
Answered: 63 Skipped: 0



ANSWER CHOICES	RESPONSES	
Retail	6.35%	4
Tourism and Hospitality	39.68%	25
Professional Services	19.05%	12
Government	0.00%	0
Education	0.00%	0
Transportation	15.87%	10
Industrial	0.00%	0
Other (please specify)	19.05%	12
TOTAL		63

Q2 Which option best describes the location of your business or organization?

Answered: 56 Skipped: 7



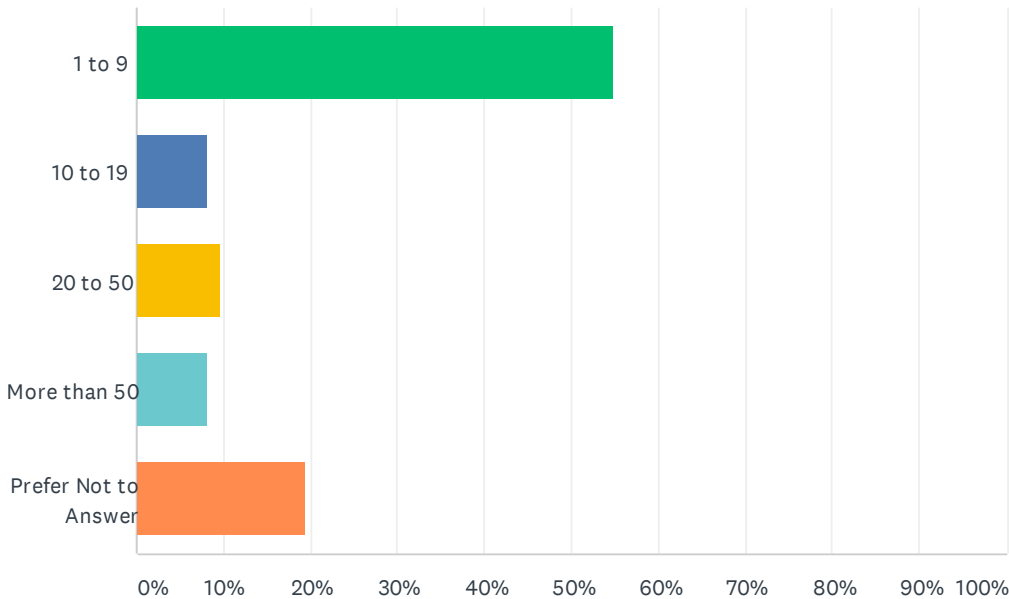
ANSWER CHOICES		RESPONSES	
Town of Golden		42.86%	24
Area A		25.00%	14
Other (please specify)		32.14%	18
TOTAL			56

Q3 What service(s) do you provide as a business / organization?

Answered: 63 Skipped: 0

Q4 How many people does your business employ in Golden?

Answered: 62 Skipped: 1



ANSWER CHOICES	RESPONSES	
1 to 9	54.84%	34
10 to 19	8.06%	5
20 to 50	9.68%	6
More than 50	8.06%	5
Prefer Not to Answer	19.35%	12
TOTAL		62

Q5 (Optional) What is the name of your business or organization?

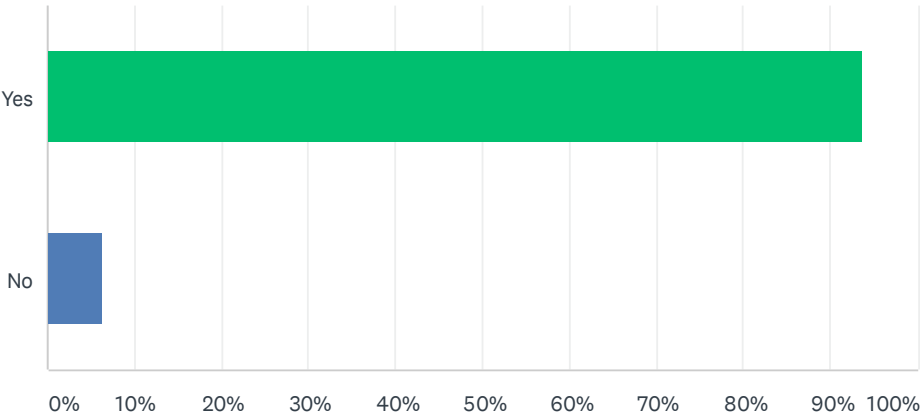
Answered: 39 Skipped: 24

Q6 In a few words, what comes to your mind when you think about the Airport?

Answered: 61 Skipped: 2

Q7 Are you aware of the businesses and services available at Golden Municipal Airport?

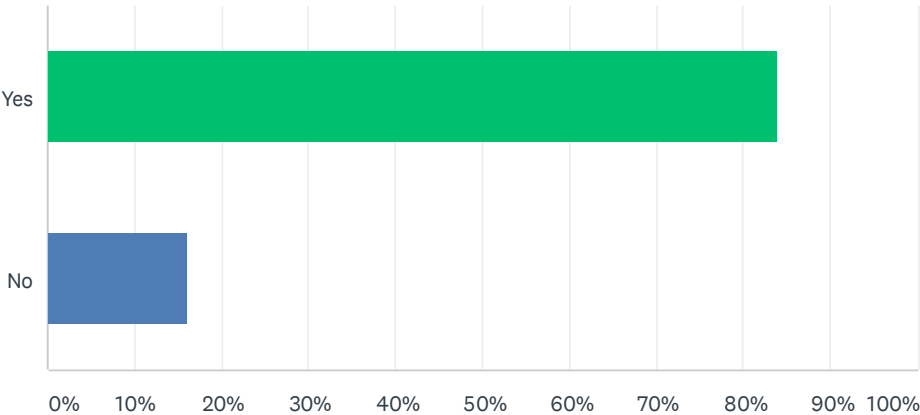
Answered: 63 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	93.65%	59
No	6.35%	4
TOTAL		63

Q8 Does your business (and / or your customers) make use of Golden Municipal Airport, or one of the businesses located at the Airport?

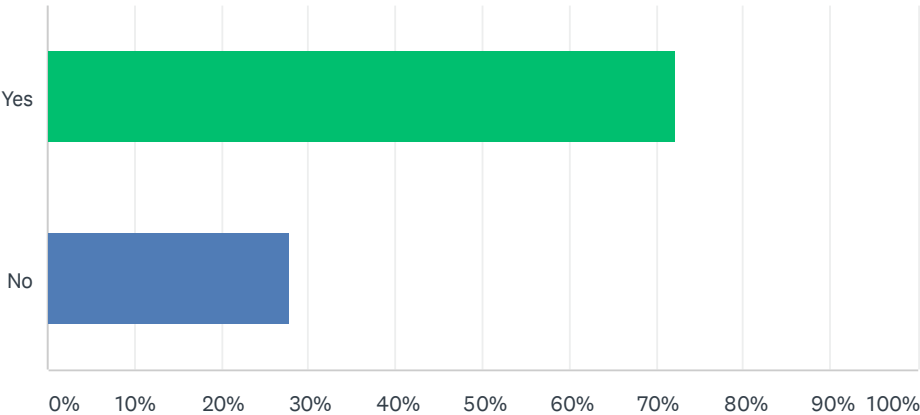
Answered: 62 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	83.87%	52
No	16.13%	10
TOTAL		62

Q9 Is the proximity of your business or organization to Golden Municipal Airport important to you and / or your customers?

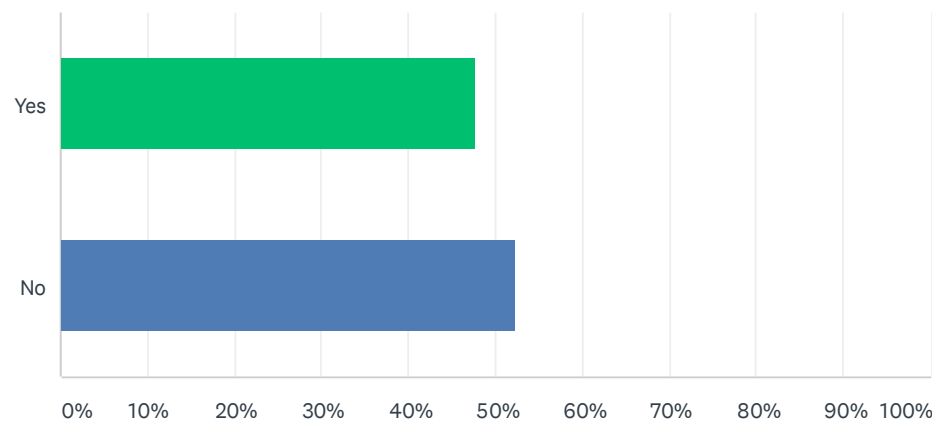
Answered: 61 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	72.13%	44
No	27.87%	17
TOTAL		61

Q10 Did the presence of Golden Municipal Airport influence your business or organization’s decision to locate in Golden?

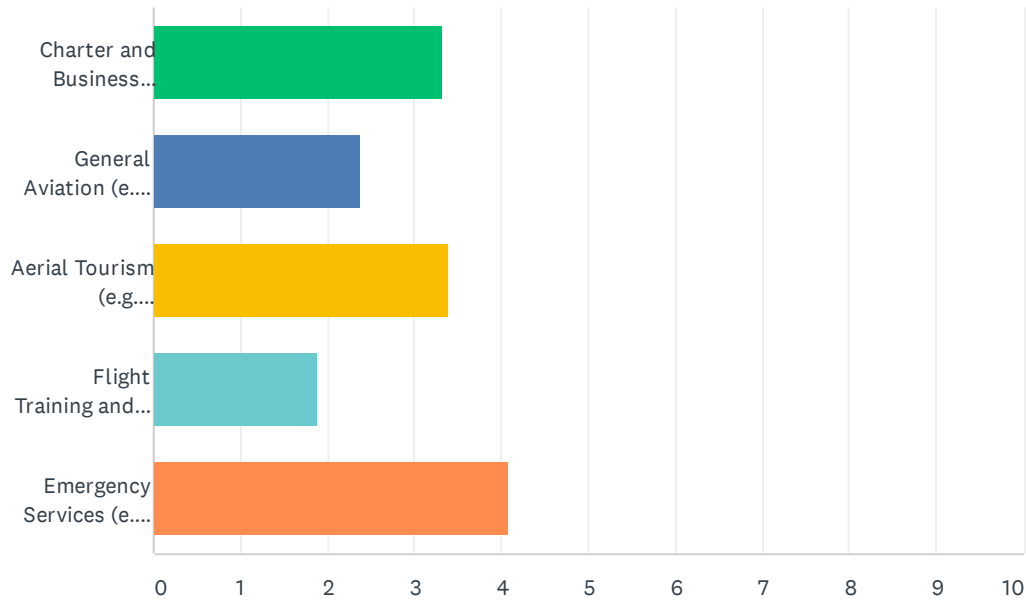
Answered: 63 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	47.62%	30
No	52.38%	33
TOTAL		63

Q11 In your opinion, what services or features of Golden Municipal Airport are the most important to Golden's economy and residents? Please rank each option from most important (1) to least important (5).

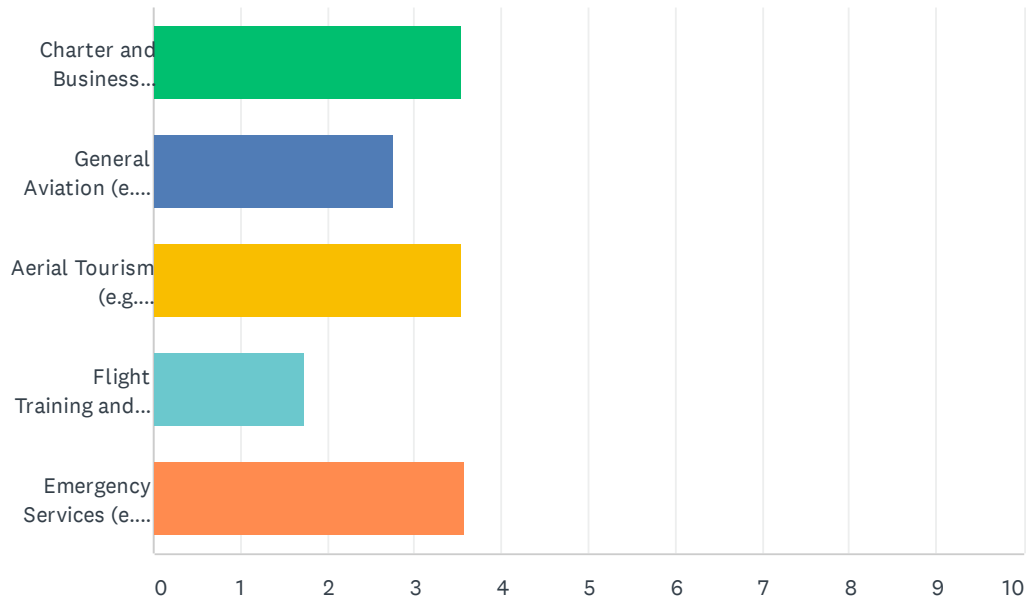
Answered: 63 Skipped: 0



	1	2	3	4	5	TOTAL	SCORE
Charter and Business Aviation	23.33% 14	20.00% 12	31.67% 19	15.00% 9	10.00% 6	60	3.32
General Aviation (e.g. recreational pilots)	10.17% 6	5.08% 3	20.34% 12	42.37% 25	22.03% 13	59	2.39
Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)	16.95% 10	38.98% 23	22.03% 13	10.17% 6	11.86% 7	59	3.39
Flight Training and Education	0.00% 0	9.68% 6	17.74% 11	24.19% 15	48.39% 30	62	1.89
Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)	51.67% 31	26.67% 16	6.67% 4	8.33% 5	6.67% 4	60	4.08

Q12 What services or features of Golden Municipal Airport are most important to your business / organization? Please rank each option from most important (1) to least important (5).

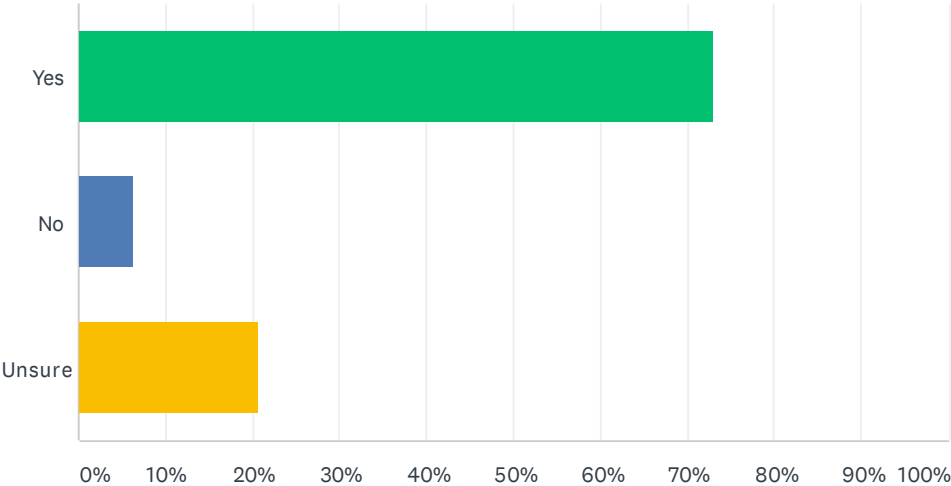
Answered: 63 Skipped: 0



	1	2	3	4	5	TOTAL	SCORE
Charter and Business Aviation	27.59% 16	29.31% 17	24.14% 14	6.90% 4	12.07% 7	58	3.53
General Aviation (e.g. recreational pilots)	10.53% 6	17.54% 10	19.30% 11	43.86% 25	8.77% 5	57	2.77
Aerial Tourism (e.g. sightseeing, heli-skiing, skydiving)	28.07% 16	31.58% 18	15.79% 9	14.04% 8	10.53% 6	57	3.53
Flight Training and Education	3.45% 2	1.72% 1	20.69% 12	13.79% 8	60.34% 35	58	1.74
Emergency Services (e.g. air ambulance, search and rescue, wildfire suppression)	35.00% 21	20.00% 12	21.67% 13	15.00% 9	8.33% 5	60	3.58

Q13 In your opinion, do businesses / organizations in Golden value the presence and availability of the Airport?

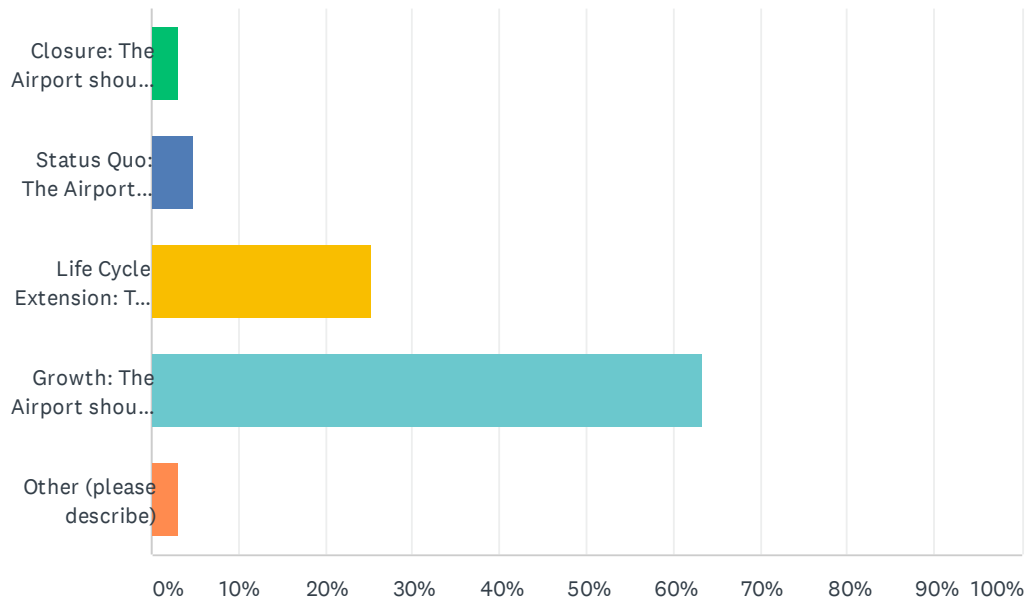
Answered: 63 Skipped: 0



ANSWER CHOICES		RESPONSES	
Yes		73.02%	46
No		6.35%	4
Unsure		20.63%	13
TOTAL			63

Q14 In your view, what should be the vision for Golden Municipal Airport in the future?

Answered: 63 Skipped: 0



ANSWER CHOICES	RESPONSES	
Closure: The Airport should be closed and alternative uses should be explored for the site.	3.17%	2
Status Quo: The Airport should continue to be operated. No capital rehabilitation or expansion projects should be considered.	4.76%	3
Life Cycle Extension: The Airport should continue to be operated. Capital projects should be limited to the rehabilitation of existing assets.	25.40%	16
Growth: The Airport should continue to be operated. Capital projects related to the rehabilitation of existing assets and new projects for business development and growth should be pursued.	63.49%	40
Other (please describe)	3.17%	2
TOTAL		63

Q15 In your opinion, are there any specific improvements that should be made at Golden Municipal Airport?

Answered: 50 Skipped: 13

Q16 Do you have any other comments or feedback you would like to provide regarding the future of Golden Municipal Airport?

Answered: 46 Skipped: 17

Appendix C - Written Stakeholder Submissions

Golden Airport, CYGE

Presentation by the Alberta Aviation Council to be included in the Golden airport viability study for consideration at the Project information session Wednesday June 24, 2020.

Many respondents to this study will deal with local issues at the airport and its infrastructure. The Alberta Aviation Council is taking a more global perspective as it may not be addressed by others. Our brief is based on the importance of the Golden Airport as it pertains to its extreme importance in the National Airspace structure.

Golden is located on the main VFR corridor connecting Alberta and the interior of British Columbia between the Kicking Horse Pass and the Rogers passes and is located in the Rocky Mountain Trench which extends from well south in Montana to Watson Lake in the Yukon. This is also a route used to fly north south to the Yukon and Alaska. As part of the National Aviation system the importance of the Golden airport is for flight safety and emergency reasons due to the vagaries of weather in the mountain passes to give aviators a place to divert to and await improved weather conditions. It is therefore important that this study considers this big picture approach and go well beyond the local infrastructure considerations of the airport itself. Unfortunately many smaller airports are struggling to keep viable; however there are no deep pockets in aviation and the airport should be considered as providing a public service to the flying public.

Other presenters will bring up their economic impact studies that were done both by COPA and the CBAA which highlight the indirect benefits to the community of Golden.

Diversions due weather and turbulence in the east and west passes leaves only Golden as a safe airport to await better conditions. It is for the same reason that the Alberta Aviation Council some years ago was successful to keep the Jasper airstrip open for the Yellowhead route and the Banff airstrip open for diversionary and emergency use between Springbank Airport and Golden.

Golden is also used by fire suppression aircraft, medivacs and charters and used for the skiers at the Kicking horse resort. It is a fully accessible IFR airport by having three Instrument approach procedures which are used by these customers as the minimum IFR altitudes are very high and also allow non-pressurized aircraft to be able to approach the airport which could be diverting due poorer than forecast weather and icing. There is also an aviation weather station at Golden which is an integral part of the approach procedures and helps in making weather decision for in the Columbia valley. Therefore the weather station and the instrument approaches are both required to access the airport and are therefore critical to the viability to keep the Golden airport fully operational and serviceable for both the aviation community and the community of Golden.

Over the years there have been many diversion into Golden and pilots have contributed to the community of Golden by purchasing fuel, food and even stayed overnight in your hotels.

There is also a Glider Alert area to the north of Golden used by the Gliding community out of Invermere and these gliders have also sometimes diverted to Golden when the weather conditions force them to land.



3715 – 56 Avenue East
Edmonton International Airport AB
T9E OV4
info@albertaaviationcouncil.com
780 890-0006

Unfortunately like many small airports which are not attended there are no accurate records of the landings and take-off as there is no practicable way to do this. Therefore the Town of Golden has no way of knowing how active their airport is and there is only anecdotal evidence even though there may be a record book in the terminal which is not mandatory to fill out or from fuel sales.

The Alberta Aviation council expects that this brief will be given serious consideration as to the extreme importance of the Golden airport and its strategic location in the National Airspace structure.

Submitted by Bram Tilroe, A/Chairman, Alberta Aviation Council



To Ben Crooks - Planner – Aviation - (613) 808-2797
HM Aero Aviation Consulting
Regarding – CYGE, Golden Airport, Golden, BC Canada

Here are the direct economic impact numbers for members of the Backcountry Lodges of BC Association who are based in Golden, and whom utilize the municipal airport. The data is taken from an impact-based survey completed during the spring of 2018. Blue line is the key for the total impacts on the Golden economy.

Key aggregated findings from the survey:

- 1) Grossed up to 8 operators based on data from 5 or 6 operators who provided data;
- 2) About 68 employees during peak season which would be made up of 22 full-time equivalents (FTEs) year-round (over 1400 hours annually) and approximately 115 part-time equivalents (PTEs), part year (less than 1400 hours annually);
- 3) Total revenue generated by 8 operators was \$3.20 million;
- 4) Approximately \$1.88 million spending on goods and services (not including wages) of which \$1.71 million was spent in Golden;
- 5) Total payroll of \$551,850 with most of this accruing to Golden area workers (does not include owners and spouse pay);
- 6) Owner share, after tax will be around \$0.92 million.

	Total # of workers in peak season	Business Growth past 10 years	Gross Revenue in 2016	Goods & Services purchased	Golden Share of purchases	Payroll Golden	FTEs equivalent	PTEs equivalent
Total Measured # of operators	68 8	n/a	\$3,201,333.33 8	\$1,876,800.00 8	\$1,711,040.00 8	\$551,832.00 8	22.40	114.67 8

It should be noted that this data does not include any spin-off economic impacts in Golden that would accrue as a result of this direct activity.

Feel free to contact the consultants directly if you have any questions.
Randy Sunderman
Peak Solutions Consulting Inc.
Tel: (250) 314-1842

Sincerely, Brad Harrison
Executive Director - [Backcountry Lodges of BC Association](#)
[Facebook](#) / [Instagram](#) / [Twitter](#)
#myBCbackcountry, #unpluginBC



Ron Oszust
Mayor
Golden, BC
PO Box 350
V0A 1H0
ron.oszust@golden.ca

Greetings Mr. Oszust,

COPA has been notified that the City of Golden is currently conducting a study on the viability of the Golden Airport and would like to offer our support in its continued operation.

Located between Vancouver and Calgary, in the rocky mountains between Revelstoke and Lake Louise, the City of Golden is ideally positioned to offer an abundance of year-round attractions to locals and tourists alike. Being surrounded by the Canadian Rockies presents a myriad of year-round activity opportunities for the outdoor enthusiast. The City additionally provides an abundance of amenities to accommodate tourists from across the county and the globe. In this context alone, the Golden airport becomes an important asset to tourism in providing a key means of arrival to the region.

General Aviation Economic Impact

The influence of General Aviation on the Canadian economy totals nearly \$9.3 billion, according to an economic impact study conducted by COPA in 2017 (this Study was provided). The Province of British Columbia ranks third after Ontario and Alberta in its contribution to the economy. The Golden airport can be a significant contributor to the economic growth of the City. There are several examples of airports across the country who have partnered with their township/cities and developed profitable financial strategic plans which enabled the viability of the local airport and benefitted the whole community.

As detrimental as COVID has been on numerous fronts, an opportunity currently exists to promote your City to Canadians who have been constrained in their choice of travel destinations and are now looking to new possibilities and experiences within our borders.

Safety Consideration

The Golden Airport is part of an important safety network of General Aviation aerodromes spread throughout the Rockies. Its contribution to this network is instrumental as it is strategically located. Mountain flying does not come without its challenges. Rapidly changing weather is a real hazard to any pilot flying in this part of the country. The accessibility to these small aerodromes plays a vital role in the success of flights through this region when unplanned inclement weather is encountered or inflight emergencies occur. The location of the Golden Airport is crucial in providing pilots and their passengers a safe place to land when faced with these perilous scenarios. Additionally, the airport provides a tactical site for Search and Rescue operations, medical evacuations and forest fire operations when required.

COPA believes that the City of Golden should continue to support its airport and explore how the airport can actually “work” for the City and play an important role in its economic growth and maintain the important role it plays in the General Aviation aerodrome safety network of the Canadian Rockies.

Sincerely,



Christine Gervais
President and CEO - Présidente et chef de la direction
Canadian Owners and Pilots Association -
Association canadienne des propriétaires et pilotes d'aéronefs
cgervais@copanational.org

Advance, promote and preserve the Canadian freedom to fly.

Thank you very much for your email Marc.

It certainly is a valuable asset, but also one that requires large amounts of money to maintain and operate.

Our Viability study will answer a lot of questions for us.

Take care, travel safely.

ron

From: marcsdesk@whittemorelawcorporation.com [<mailto:marcsdesk@whittemorelawcorporation.com>]
Sent: September-03-20 9:13 PM
To: Ron Oszust
Subject: Airport

Dear Mayor--- an airport is a precious and invaluable asset to any community.

Please strive to maintain yours and use it as a tourism promo tool. All too often the value of the asset is misunderstood and not optimized.

We are flying to your town next week to play golf and enjoy your accommodations and services , specifically due to your airport.

Best wishes,

Marc Whittemore, Lawyer
Heritage Law Building
830 Bernard Avenue
Kelowna, BC V1Y 6P5

250-868-2202--office
250-470-9410--direct
www.whittemorelawcorporation.com
marc@whittemorelawcorporation.com

Ben Crooks

From: r.s.graham <r.s.graham@shaw.ca>
Sent: June 25, 2020 10:40 PM
To: Ben Crooks
Subject: Golden airport

Hello Ben,

While I am no longer a resident of Golden, I still have strong ties as I was born and raised there. I even worked at the airport for 5 years as an AME and flew there with both private and commercial licenses back in the late 80s, early 90s. I still hold both AME and Commercial pilot licenses and can speak with some authority as to the necessity of the Golden airport.

Additionally, I am further connected personally to the Golden airport in that my father was responsible for acquiring the land it now sits on from the farmer who originally owned it. The story goes that there was some ongoing dispute between the farmer and the town and he wouldn't sell directly to the town. My father was a school Principal, Credit Union board member, a Free Mason and a member of the Golden Eagles Flying Club. Long story short, my father bought the land from the farmer for a dollar and then sold it to the town for the same price.

I have seen it change from its inception right up to how it is today. I would hate to see it be lost as it is an incredibly important facility to the town and to all those who benefit from it simply being there; medevac patients being the most important, whether local or visitors/passers thru.

During the Q&A last night, I measured out the available distance at each end of the runway using Google Earth and an additional 250' could be added at each end quite easily with another 250' on each end with some additional accommodations that should not be all that expensive. Additional width is not an issue as there is plenty of room.

Someone mentioned water and sewer services and most definitely yes, those along with modern communication lines should be mandatory, no matter what, before the runway is re-surfaced. I would even hazard to say future proofing by means of conduit installation would be prudent, at least from one side of the runway to the other.

Yes, there did use to be a float plane operation from the Columbia river immediately adjacent to the Golden airport in the past. I know the people who had that service and would be happy to put you in contact with them as they are like second family to me.

I know there used to be a BC Forest Services Air Tanker Base on the field for many years but following an overrun accident at a different airport that resulted in the loss of the life of the pilot, all tanker bases in BC on airports under a minimum size were closed. This was many years ago now but perhaps there could be funding available there. I do understand that is a slim chance but it is still worth looking into.

I genuinely hope that sources of funding can be found to complete the long overdue re-surfacing thru government sources for emergency service purposes alone but if not, I have some PPP ideas that might just work to help raise additional capitol needed to fund the upgrades needed. Night/lighted operation capability is long overdue at the Golden airport and I gave stories to support this statement.

I welcome any questions you might have so please feel free to contact me by email or by phone at: 403 860 4339.

Sincerely,

Chuck Jarecki
218 Pheasant Ridge
Polson, MT 59860
August 22, 2020

Email: skywagon@centurytel.net
Phone: 406-883-2248

Ron Oszust
Golden, B.C. Mayor
P.O. Box 350
Golden, B.C. V0A 1H0
Canada



Subject: Golden Airport

Mayor Oszust:

I have been a pilot for close to sixty years, mostly flying a Cessna 180 on wheels and a Cessna 185 on amphibious floats. I have made many flights from my home in western Montana to British Columbia and the Yukon, the first being in 1980.

I am distressed to learn that there is a possibility that the Golden airport (CYGE) may be closed due to lack of funding for overdue maintenance. This is a serious concern to me for several reasons:

- 1) Golden Airport has been a frequent fuel stop for me. The self-serve fuel pumps are easy to use.
- 2) Golden is a good place to stop should inclement weather be encountered. I have stayed at a Golden lodging three times. Having an airport so close to town is a real asset.
- 3) The weather heading north from Golden over McNaughton Lake can change rapidly. The only option should this happen is to return to Golden where there is fuel, accommodations and meals.
- 4) The Golden area has much in the way of recreational opportunities. That information should be available at the airport.

I would suggest that you seek funding to make necessary repairs. You could have seen this coming and budgeted accordingly. What about receiving some funding grants from the Province? The Golden Airport is a real asset to your community, just as is my home airport at Polson. Look to the future!

BTW, I have prepared a pilot information sheet for those who plan to fly the Rocky Mountain Trench from western Montana to the Yukon. My comments on Golden are:

Golden, B.C. Airport (CYGE)

There is a small terminal building with wash rooms, vending machines and a telephone. The place is clean. Self-service fuel is available. There is also a daytime staffed weather reporting office. The airport is only about a mile into town for food and lodging.

Between Golden and Valemount is McNaughton Lake, an eighty-five NM long reservoir created by Mica Dam on the Columbia River. There is no place along the shore of this body of water on which to make an emergency landing.

Golden Mayor Oszust letter, page 2

The steep mountain sides come right to the shore line. Also, the weather in this area can be marginal when the remainder of the Trench is decent VFR.

In summary, find solutions to your deferred maintenance problem. Do not even consider an airport closure.

Sincerely,

Chuck Jarecki

**Cc: Jon Wilsgard, CAO, Golden
Dave Frank, Ex. Dir., B.C. Aviation Council
Kate Klassen, B.C., COPA**

Ben Crooks

From: Andrew Vilcsak <andrew@vilcsak.com>
Sent: September 26, 2020 2:54 PM
To: cao@golden.ca
Cc: Ben Crooks
Subject: Voice of support for the Golden Municipal Airport

Hi Jon –

I wanted to take a quick moment to voice my support for the continued operation of the Golden Municipal Airport.

My family and I recently fulfilled one of our grandfather's longest-running dreams, by building a family cabin, with our own hands, over the past two years, situated just about 15 minutes south of Golden. A large part of the reason that I chose the Golden area, specifically, was the incredible convenience and accessibility of the local airport. It has been a lifelong dream to get my private pilot's license, which I should complete before the end of the year, and I was beyond excited to begin regular flights in and out of the Golden airport.

I believe it would be a true loss to the Golden community, the general aviation community, and the economy of the entire region to close the Golden airport. I realize there are short-term economic needs and long-term economic burdens to running and maintaining the airport, but I think it would be a real shame to see the airport close without a further effort towards pursuing a model of economic self-sufficiency, of which I would be personally interested in assisting with, as I am sure would many others.

Thanks for taking the time here, and thank you for all your continued work in making Golden one of the truly magnificent hidden Canadian towns.

Thank you,
Andrew