

## DISTRICT OF FORT ST. JAMES

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### Fort St. James (Perison) Airport (CYJM)



APRIL 2024  
REVISION 1

# Airport Development & Master Plan

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# 1.0 INTRODUCTION

The Fort St. James (Perison) Airport serves a regional population of approximately 4,500, including the district municipality of Fort St. James, rural areas around Stuart Lake, and local First Nations including the Nak'azdli, Tl'azt'en and Yekooche First Nations, with their various communities along the shores of Stuart Lake and surroundings<sup>1</sup>.

The economy of Fort St. James relies primarily on natural resource development and tourism. The community and airport lie north of Vanderhoof by approximately 55 kilometres in proximity to significant commercial forestry operations, mines, and some of the largest natural lakes in the province.

Fort St. James lies at the head of the Stuart River, where the waters of the Stuart Lake system, home of the Early and Late Stuart Sockeye Salmon runs, begins its journey to the Pacific Ocean via the Fraser River.

## 1.1 Regional Profile

Fort St. James (Perison) Airport is in the Regional District of Bulkley Nechako (RDBN), which is comprised of an overall population of approximately 38,000, half of whom reside in the municipalities of Smithers, Vanderhoof, Houston, Burns Lake, and Fort St. James. Fort St. James has a permanent population of approximately 1,600, about a third of which identify as First Nations origin with the majority from the Nak'azdli Whut'en community.

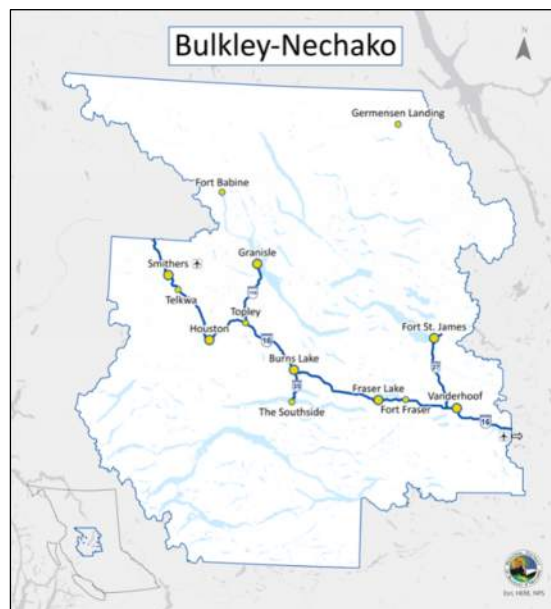


Figure 1.1. Regional District of Bulkley-Nechako

<sup>1</sup> Northern Health website ([www.northernhealth.ca](http://www.northernhealth.ca)) - 2023

## 1.2 Airport Profile

The District of Fort St. James itself was incorporated in 1952 and has grown in response to industrial, forestry and mineral development in the region. Fort St. James (Perison) Airport was originally built in 1964 as a gravel strip during the region's mining boom, on land originally donated by Harold Perison. By 1980, the airport consisted of an 850 metre (2,800 feet) long x 15 metre (50 feet) wide paved runway and adjacent 0.6 hectares (1.6 acres) apron area providing a commercial link to the community and the region's float and ski plane operations serving remote industry and recreation.

In 1982, airfield improvements were undertaken to lengthen the runway to 1,200 metres (3,937 feet) and widen the runway to 23 metres (75 feet), as well as expanding the apron area to approximately 0.85 hectares (2.0 acres). The airfield currently offers the closest gateway to the over 30,000 square kilometres of sparsely populated and wilderness areas to the northwest.<sup>2</sup>

### Current Airport Statistics:

- IATA/ICAO: YJM/CYJM
- Type: Airport (Airfield)
- Use: Public/Civil (VFR)
- Location: 2.75 Nautical Miles (NM) south of Fort St. James
- Latitude: 54°23'48"N (54.397222)
- Longitude: 124°15'42"W (-124.262777)
- Elevation: 2,364 ft (721 m)
- Runways: 10/28 – asphalt  
3,937 ft x 75 ft (1,200 m x 23 m)
- Comm: Traffic 123.2 5NM 5400 ASL

The airport is situated on relatively flat land without significant topography, due in part to the very large lake (Stuart Lake) to the northwest. The airport elevation is 2,364 ft (721 m), which is considerably higher than most urban airfields in developed communities around the province's interior. Appendix 1 contains a detailed table of aerodrome data for the Fort St. James airport and for comparable local and regional airports in British Columbia. Some of these are also identified in Figure 1.2.2, a summary of the closest land and water aerodromes to the Fort St. James Airport.

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<sup>2</sup> Olmstead and Associates, October 29, 1990, Airport Development Masterplan Update for Fort St. James (Perison) Airport

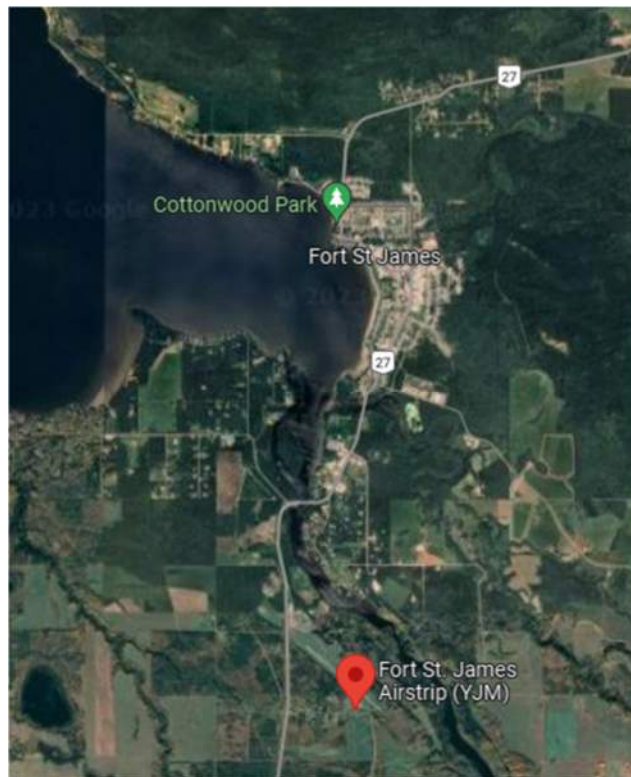


Figure 1.2.1. Fort St. James Area and Airport Location

| Name  | ICAO (TC) | Dist. From CYJM          | Runway(s)  |
|---|-----------|--------------------------|--|
| Fort St. James / Stuart River Water Aerodrome | (CAZ6)    | 1.5 NM (3 km) north      | n/a  |
| Vanderhoof Airport                            | (CAU4)    | 23 NM (42 km) southeast  | 03/21 – 4,496 ft (1,370 m) turf/gravel<br>07/25 – 5,019 ft (1,530 m) asphalt<br>15/33 – 3,331 ft (1,015 m) turf/gravel |
| Fraser Lake Airport                           | (CBZ9)    | 29 NM (54 km) southwest  | 08/26 – 3,900 ft (1,189 m) asphalt   |
| Burns Lake Airport                            | CYPZ      | 59 NM (110 km) west      | 11/29 – 5,060 ft (1,542 m) asphalt   |
| Prince George Airport                         | CYXS      | 64 NM (118) km southeast | 01/19 – 3,769 ft (1,149 m) asphalt<br>06/24 – 5,624 ft (1,714 m) asphalt<br>15/33 – 11,450 ft (3,490 m) asphalt        |

Figure 1.2.2. Nearby Aerodromes

## 1.2.1 Land Use

The following diagram and table identify surrounding properties adjacent to the Fort St. James airport lands, as listed on BC Assessment. The airport lands (1) are listed as “Miscellaneous”. The runway extension area on the southwest end is listed as “Airport/Heliports Etc.”. Land parcel 5 is unassigned Crown land which appears to be sterilized to provide for airport approach restrictions.

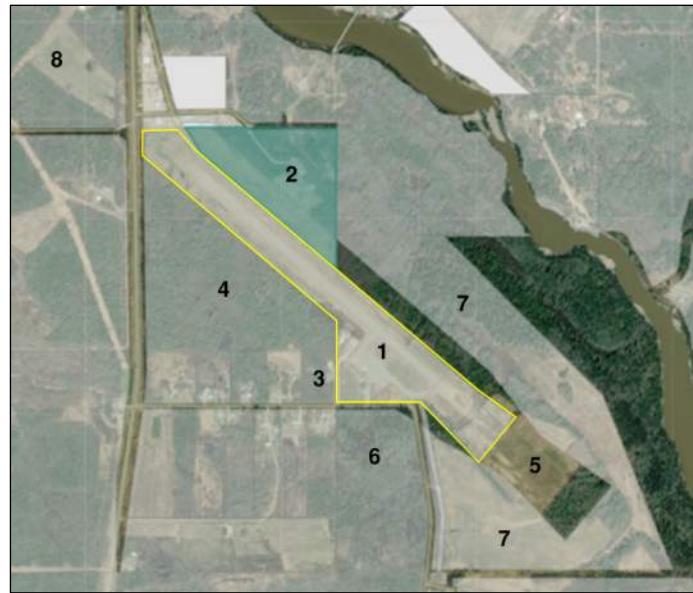


Figure 1.2.3. Fort St. James (Perison) Airport Land and Surrounding Parcels

| No. | Size (Acres) | Civic Address                     | Roll No.         | Legal Description   | PID         | Land Use Description      |
|-----|--------------|-----------------------------------|------------------|---|-------------|---------------------------|
| 1   | 58.98        | Vanderhoof Rural<br>01181.700     | 26-756-01181.700 | LOT 1, PLAN PRP13842, DISTRICT LOT 1661, RANGE 5, COAST RANGE 5 LAND DISTRICT, /DL1662 AIRPORT PURPOSES     | 018-525-113 | Miscellaneous             |
| 2   | 17.2         | Vanderhoof Rural<br>1181.697      | 26-756-01181.697 | BLOCK D, DISTRICT LOT 1661, RANGE 5, COAST RANGE 5 LAND DISTRICT  | 025-448-617 | Airports, Heliports, Etc. |
| 3   | 6.1          | 6202 AIRPORT RD<br>FORT ST. JAMES | 26-756-01181.00  | LOT 5, PLAN PRP6612, DISTRICT LOT 1660, RANGE 5, COAST RANGE 5 LAND DISTRICT, MANUFACTURED HOME REG.# 99494 | 009-929-142 | MH - Single Wide          |



|   |          |                                  |                  |   |             |                                  |
|---|----------|----------------------------------|------------------|---|-------------|----------------------------------|
| 4 | 68.942   | Highway 27                       | 26-756-01181.100 | LOT 1, PLAN EPP103977, DISTRICT LOT 1662, RANGE 5, COAST RANGE 5 LAND DISTRICT  | 031-351-875 | 2 Acres or More (Vacant)         |
| 5 | 25 (Est) | unknown                          | unknown          | unknown   | unknown     | Crown - reserved for airport use |
| 6 | 37.04    | 1010 RIVERBANK RD FORT ST. JAMES | 26-756-01184.005 | LOT A, PLAN PRP14451, DISTRICT LOT 1662, COAST RANGE 5 LAND DISTRICT, MHR 12492 EXEMPT FROM MH ACT 02OCT2000 (#185638), MANUFACTURED HOME REG.# 12492 | 023-160-616 | MH - Single Wide                 |
| 7 | 131.7    | Vanderhoof Rural 01181.698       | 26-756-01181.698 | LOT E, DISTRICT LOT 1661, COAST RANGE 5 LAND DISTRICT   | 026-876-680 | Beef (Vacant)                    |
| 8 | 158.46   | 1485 FAIR RD FORT ST. JAMES      | 26-756-01183.000 | PART NW1/4, DISTRICT LOT 1662, RANGE 5, COAST RANGE 5 LAND DISTRICT, EXCEPT PLAN 5879   | 026-876-680 | 2 STY house - standard           |

Figure 1.2.4. Legal Land Descriptions

### 1.3 Regulatory Framework

The Fort St. James Airport is owned and operated by the District Municipality of Fort St. James (or District). The airport is a registered aerodrome, which compels the airport to maintain a level of compliance with *Canadian Aviation Regulations* (CARs) and provide timely and accurate updates to Nav Canada’s *Canada Flight Supplement* (CFS) for airport users. As a registered aerodrome, the facility is subject to inspection by Transport Canada to enforce compliance and reporting requirements.

The District has developed Business and Community Plans which govern zoning, land use, and permits in and around the community, which includes the airport lands.

Airport development activity and costs must be approved through council resolution which may be facilitated if funding is being provided through provincial, federal or other infrastructure grant programs. Any such development would also be subject to technical and environmental review through the municipality’s Development and Building Permit processes.



Airport development works must also comply with regulations, codes and standards applicable to airport operations and the physical infrastructure to be constructed or modified under the municipality's permit process. These include, but are not limited to:

- **Canadian Aviation Regulations (SOR/96-433)**
  - Regulations Respecting Aviation and Activities Relating to Aeronautics
- **Transport Canada TP312 (5<sup>th</sup> Edition) - Aerodrome Standards and Recommended Practices**
  - Objective: Standardize airfield design and geometry, visual aids, lighting and signage
- **BC Fire Code 2018**
  - Objective: Reduction of risk of injury, illness, and property loss through fire protection of buildings and fuel storage facilities
- **CSA B836 (22) – Storage, Handling, and Dispensing of Aviation Fuels at Aerodromes**
  - Standardize fuel storage, quality, safety and operating procedures for commercially used fuels and facilities.

Under its aviation and airport operations online portal, Transport Canada maintains an online Civil Aviation Reference Centre (<https://tc.canada.ca/en/aviation/reference-centre>) providing the aviation community access to up-to-date relevant standards, policies and guidance documents for all aspects of airline and airport operations. A useful component of the site is the database of Aviation Circulars (AC's) (<https://tc.canada.ca/en/aviation/reference-centre/advisory-circulars>), in particular the 300 Series which provide guidance material for airport operators. This series of AC's covers subjects such as land management, aircraft maneuvering areas, lighting, fuels, de-icing among others which provide baseline requirements and recommended practices to all classes of airports.

## 1.4 Environment

Geographically, Fort St. James (Perison) Airport lies roughly 5 kilometres south of the center of town, adjacent to the Stuart River escarpment. It is centrally located on relatively flat terrain consistent with the width of Stuart Lake and likely part of the former lakebed. The region lies in the northwest corner of the Nechako Plateau between the southern Skeena Mountains to the west and the Omenica Mountain Range to the east.

The Fort St. James area lies within the Sub-Boreal Spruce bio-geoclimatic zone dominated by spruce, lodgepole pine, and some broadleaf hardwoods. The climate is characterized as four-season with consistent and light to moderate precipitation year-round, with daily average temperatures ranging

from -10°C to +22°C, and extremes between -30°C in the winter to +30°C in the summer. The area lies north of the 54<sup>th</sup> parallel and experiences a wide range of daylight hours from season to season.

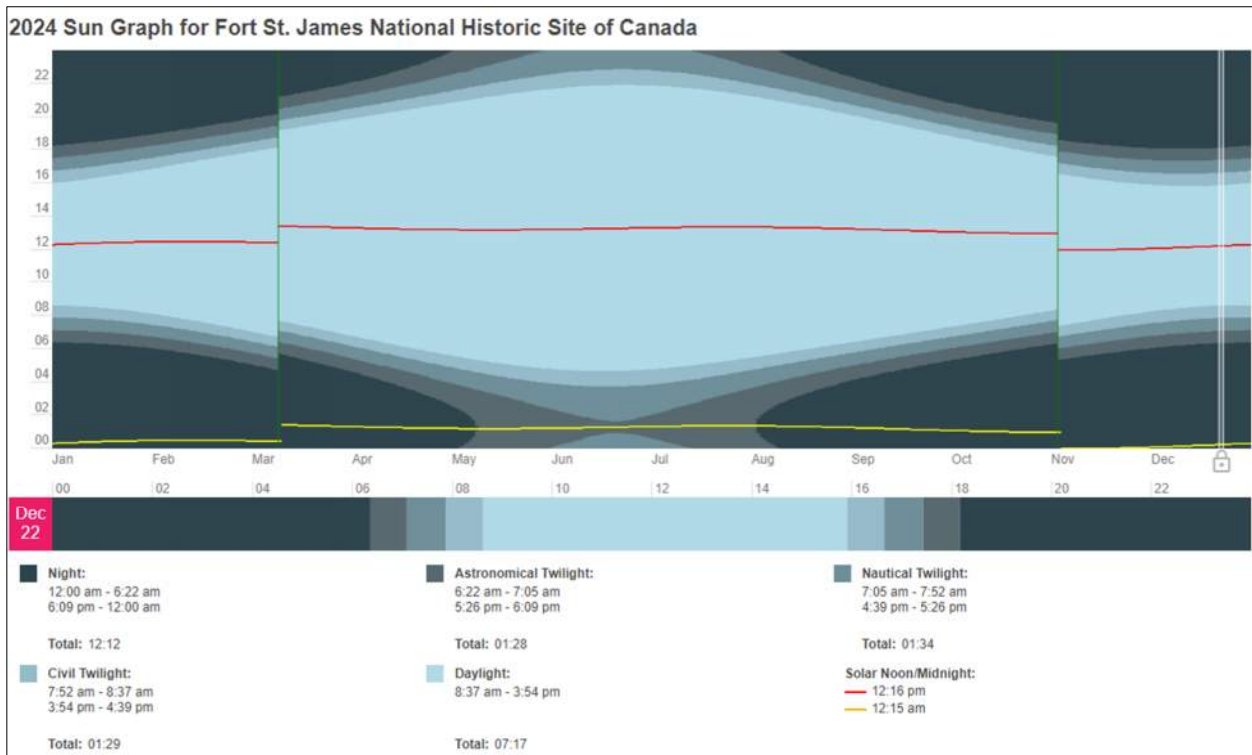


Figure 1.3.1. Sun Graph of Fort St. James Area Depicting Daylight Hours

Figure 1.3.1 illustrates the variation of daylight, twilight, and night hours in the Fort St. James region throughout the year. The data set at the bottom of the illustration reflects the date chosen on the graph, December 22, the winter solstice. Total daylight hours, including civil twilight (which is defined as the time in which the sun is less than 6° below the horizon and generally allows outdoor activity to continue without the need for artificial light) gets as low as 8 hours and 46 minutes. Relevant to a registered airport, under Visual Flight Rules (VFR) generally aircraft are not allowed to take-off or land before 30 minutes prior to sunrise or after 30 minutes after sunset, respectively. Without sophisticated guidance systems and on-board instruments, these conditions can severely restrict flight activity at smaller airports in northern regions of Canada.

The siting of the airport has limited risk of natural disasters, with the exception of potential loss of structures and operational challenges in the event of a wildfire in the immediate vicinity. The site lies approximately 40 metres higher than Stuart Lake and the adjacent Stuart River and therefore is not at risk of seasonal flooding.

## 1.5 Master Plan Objectives

As outlined in the District of Fort St. James Strategic Plan<sup>3</sup>, the primary goals of the community are to support the safety and health of its residents, improve livability, promote and expand tourism opportunities, and attract new business and investment to the community.

The community airport plays an important role in supporting of each these goals, by connecting the community to sources of aid, tourism, business, and recreation. More specifically, the airport's long-term objectives include:

- **Enhanced Safety** – *Safety of aerodrome activities cannot be understated. Modern airports, large and small alike, must maintain minimum standard of safety features and practices and, where possible, provide enhanced capability depending on site specific requirements.*
- **Meeting Current Requirements** – *Ensuring that the airport can support the current needs of the community and existing opportunities, including fire fighting and emergency services such as RCMP, med-evac, BC Wildfire Services and Search and Rescue (SAR) operations.*
- **Meeting Future Demand** – *The airport must have the capacity to support low, medium, and high expectations for growth of flight activity, whether it is for passengers, cargo, or to support critically important fire fighting and emergency services for the vast wilderness areas on the community's doorstep.*
- **Compatible Land Use** – *Ensuring the airport and surrounding residential, business, and other land uses can co-exist and recognizing the restrictions and regulatory framework that govern the airport envelope.*
- **Structured Operating Costs** – *Provide a framework for rates and charges for airport users to support airport investment and reduce the cost burden to the community.*
- **Future Planning** – *Provide a roadmap to airport expansion, improvements, and enhancements in airport services for private, commercial, and emergency uses as demand increases.*

These objectives must align with other community planning documents and goals in order to provide the greatest benefit to both the users and community at large. Relevant documents used in the development of the Plan are listed in the References (Section 7.0).

Due to the inconsistent level of use of the Fort St. James airport, the Plan has been developed with limited input or consultation with users, stakeholders, or the public, other than District staff and members of the Nak'azdli First Nation. It is understood that, through the application and funding with the B.C. Air Access Program, there is general agreement in the community on the need for improvements at the airport and basic framework for further development beyond 2023.

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<sup>3</sup> District of Fort St. James, 2018-2022 Strategic Plan <https://fortstjames.civicweb.net/document/41043/>

## 2.0 FLIGHT ACTIVITY

### 2.1 Current and Historic

Flight activity at Fort St. James is made of primarily recreational and non-commercial light aircraft, including helicopters and floatplanes equipped with integral landing gear. The airport has seen occasional use by med-evac and in more recent years increasing use by wildfire support aircraft in response to incidents and fires occurring in the vicinity of Fort St. James.

Unfortunately, official records of regular or recent general aviation, charter, or other cargo/freight flight activity have not been kept by the municipality which may reveal trending growth or changes in use over time. However, with the growing connectivity needs of the community, enormous region of wilderness and significant resource development potential surrounding the community, flight activity is both a necessary and desirable component for a community deeply connected to the natural surroundings.

Central Mountain Air and Vanderhoof Flying Services have historically been the most frequent fixed wing users of the Fort St. James airport, however, they do not have fixed bases of operations at the airport nor do they have regularly scheduled flight services. Commercial helicopter operators are currently the most active users of the airport, especially during the summer, providing charter services to support regional mining and silviculture operations, as well as air ambulance and wildfire support, fishing, and tourism. Major helicopter operators include Yellowhead Helicopters Ltd. and Interior Helicopters Ltd.

The 2023 fire fighting season saw significant helicopter activity at the airport, requiring a permanently stationed fueling vehicle since there was no retail fuel facility available at the airport. Helicopter activity was daily through the July-August timeframe, with multiple aircraft stands being occupied at any given time between deployments.

The B.C. Wildfire Service reported the following rotary wing aircraft using the airfield on a daily basis during the wildfire season as a base of operations and for maintenance and refueling:

#### **HEAVY**

- Sikorsky S-61 – Coulson Aviation – fuel capacity 2,475 L
- Bell 214 – Black Tusk Helicopters – fuel capacity 750-1,450 L
- Eurocopter – Super Puma AS332 -Coldstream Helicopters – fuel capacity ~1,500 L

#### **TYPE 2**

- Bell 204/205/212 – fuel capacity up to 750 L
- Bell 412 – fuel capacity 1,250 L

#### **TYPE 3**

- Eurocopter Astar AS350 – fuel capacity 540 L
- Bell 206 Longrangers – fuel capacity 375 L

Mobile fueling equipment was used for refueling and frequent fuel loads ferried in from bulk facilities in Prince George to meet daily demand of up to 30,000 litres of Jet A-1 aviation fuel.

## 2.2 Projected

The natural resource industry forms an integral part of the Fort St. James region's economy. A major nickel mine is proposed approximately 90 km northwest of Fort St. James, with increasing activity in 2024 for feasibility studies and with the recovery of nickel prices. Significant exploration in 2024 and longer-term development is also anticipated at a copper-gold mine site further north towards Takla Landing. Both of these sites are only accessible by road through Fort St. James, with Fort St. James airport being the logical choice for airborne mine services or direct/scheduled flights. In addition, with the recent completion of the Coastal Gaslink project, there will be an ongoing need for airborne reconnaissance and surveillance services for which the community has received inquiries on availability of fuel and amenities for service providers.

Another area of anticipated growth is the tourism industry, with the area serving as a destination for eco-tourism, seasonal short-term tourism such as hunting and fishing, camping, and winter sports with Stuart Lake, Murray Ridge Ski Area, and Fort St. James National Historic Site featuring as key attractions.

A 2021 Tourism Strategy and Implementation Plan commissioned by the municipality through Grant Thornton LLP highlights the many attractions the community and region have to offer, along with strategic goals and implementation strategies to increase visitations, both in number and duration. In the absence of geopolitical upheaval and major economic downturns it is a fair assumption that the community's need for leisure and business travel will continue to grow.

In addition, BC is routinely experiencing extended droughts brought on by climate change, which put the Fort St. James area squarely in the center of a significant wildfire zone. Fort St. James is situated at the edge of a vast region of natural and managed forests which will be increasingly prone to potential wildfires, demanding a greater airborne response capability from local airfields. As experienced over the summer of 2023, the seasonal demand resulted in high airport usage on a daily basis, with needs for critical services such as fuel, maintenance, and amenities and lodging for response personnel.

However, it is difficult to assess the projected level of traffic in the near term or longer-term based on any one or combination of these influences. Like many of our counterpart airports in the region, these activities are likely to be more concentrated over the summer months, contributing significant additional air traffic to existing general aviation, charter industry activity the airport currently supports.

## 2.4 Other Opportunities

As time goes on, remote communities on Stuart Lake and further north will likely generate increasing demand for air access, primarily by helicopter and float plane. Although this may not result directly in

significant increased flight activity at the municipal airport, this activity would benefit from services made available as the airport is developed and attracts supporting businesses and services.

The Vanderhoof Flying Club has existed for over 50 years and offers the regional population access to flight training and organized events with flying enthusiasts. The Club's proximity to Fort St. James airport could result in additional flight activity, touch-and-go exercises and other related support services to this growing club.

## 3.0 FACILITIES

### 3.1 Existing

By road, Fort St. James (Perison) Airport is located 7 km south of Fort St. James and 55 km northwest of Vanderhoof. The airport is registered with Transport Canada under the Canadian Aviation Regulations (SOR/96-433). It is not a certified airport and currently does not support night flight activity. The airport property occupies some 59 acres (24 ha), the majority of which is designated airside maneuvering areas and restricted from any commercial development opportunities.

The relevant aerodrome standard at the time of the most recent airfield rehabilitation project (1995) was TP312 4<sup>th</sup> Edition – Aerodrome Standards and Recommended Practices (1993). Under this design-based standard, the facility would be considered to have a Reference Code of "2B" reflecting a runway length of approximately 1,187m (threshold to threshold) and aircraft size restricted to piston or turboprop style short-range aircraft such as the Beechcraft 1900 and King Air, Cessna Caravan, or Saab 340.

#### 3.1.1. Development History

The earliest available records for the airport date back to 1977 with Transport Canada developing a previously unregistered airstrip into a municipal airport under agreement with the District of Fort St. James. The airport has undergone several upgrades between 1980 and 1995, notably including:

- Runway and apron paving;
- Gravel apron extension;
- Runway extension and widening;
- Taxiway addition and apron paving; and
- Runway pavement overlay.

The existing infrastructure detailed in the next section is the culmination of these airfield improvements.

### 3.1.2. Existing Infrastructure

Existing facilities prior to the 2023 expansion project (underway as of the writing of this Plan) consisted of the following:

- Runway 10/28: Length 1,200 m, width 23 m, paved with the following paint markings:
  - Threshold bars
  - Runway identifier
  - Centerline
- Taxiways A and B, leading from mid-sections of the runway to the apron area;
- Paved 8,300 m<sup>2</sup> unmarked apron area for aircraft movement and parking;
- Two unoccupied municipal outbuildings, water pump shack and septic field;
- Two tenant helicopter service providers:
  - Interior Helicopters, with apron access and private fuel facility;
  - Yellowhead Helicopters, with 2 dedicated helipads and a fuel facility;
- Partially fenced airfield perimeter adjacent to developed areas on the south side.

The airfield is located in a mostly forested and agricultural region south of Fort St. James and south of the Stuart River, with a small industrial complex at the north end and rural residential neighbourhood along nearby Airport Road. The airfield has not experienced recent commercial or scheduled flight activity other than transient but intense usage by wildfire response services as experienced in 2023. The airfield is primarily used by recreational fixed wing, charter, and commercial helicopter operators, with occasional med-evac transport aircraft currently operated by Carson Air.

The airfield has limited fencing installed around its perimeter and is frequently accessed by foot traffic and all-terrain vehicles (ATV's) or snowmobiles which is a concern to be addressed by security measures identified in the development strategy.

The current Canadian Flight Supplement (CFS) entry for Fort St. James (Perison) Airport is as follows:

| FORT ST. JAMES (PERISON) BC |   | CYJM |
|-----------------------------|---|------|
| REF                         | N54 23 50 W124 15 46 2.4S<br>19°E (2013) UTC-8(7) Elev 2364'                                      |      |
| OPR                         | District 250-996-7161 Reg   |      |
| PF                          | A-1,3 C-2,4,5   |      |
| FLT PLN<br>FIC              | Kamloops 866-WXBRIEF (Toll free within Canada) or<br>866-541-4101 (Toll free within Canada & USA) |      |
| SERVICES                    | s 4,5   |      |
| RWY DATA                    | Rwy 10/28 4000x75 asphalt<br>RCR Opr Ltd win maint  |      |
| COMM                        | ATF tfc 123.2 5NM 5400 ASL  |      |
| CAUTION                     | Trees to 90 AGL 220' fr N rwy edge.   |      |

Figure 3.1.1. Fort St. James (Perison) Airport CFS Entry (2023)





Figure 3.1.2. Fort St. James (Perison) Airport Aerial View (Existing 07/2023)

## 3.2 Development Strategy

In late 2022, the District of Fort St. James worked with a construction and design firm (W.S. Nicholls Western Construction Ltd.) to establish a scope of work, cost estimate and timeline for necessary improvements at the airport to support 24hr airfield operations, emergency services, and overall public accessibility.

The municipality's long-term vision is for a full-service airport accessible by a range of private, business, and commercial aircraft a level of service commensurate with the population and commercial activity of the Fort St. James area. With a further view to eventually certify the airport under Transport Canada, development of airport infrastructure in compliance with Transport Canada's Aerodrome Standard (TP312 5<sup>th</sup> Edition) will facilitate the certification process when the time comes.

Critical criteria, primarily for fixed wing aircraft, include:

- Adequate runway length and width;
- Adequate taxiway width and apron space;

- TP312 5<sup>th</sup> edition compliance.

Secondary criteria include:

- Airfield lighting systems for both fixed wing and rotary aircraft;
- Fuel services;
- Dedicated weather station;
- Public parking and amenities;
- 24hr access, w/ winter maintenance capabilities;
- Terminal Building and amenities;
- Leasing capacity;
- Light aircraft long-term parking and tie-down area for light aircraft.

Most of these criteria are addressed in Sections 3.3 through 3.5 and have been established under three phases of development to respond to government funding criteria and in order of priority. In the context of this Master Plan, early components of the development strategy were established by the community prior to this Plan being written and are hereby adopted to form part of the development strategy.

### 3.3 Phase 1 – Runway and Airfield Lighting Improvements

The District of Fort St. James applied under the British Columbia Air Access Program (BCAAP) for funding in 2023 to extend the runway and install airfield lighting and guidance equipment. These improvements were intended in part to support enhanced med-evac, wildfire, and emergency response for the community, however, would also provide improved airport services for the general public using both commercial and private aircraft.

The proposal was approved under Project ID #0650A127323 and work was underway starting in May 2023. As of the issuance of this Plan, the project is substantially complete with final asphalt placement and approach lighting calibration remaining to be completed in spring/summer 2024.

The following scope of work was included this upgrade (bold titles are as defined by the funding agreement):

- 1. Design, supply and install an asphalt runway end safety area;**
  - a. 100m asphalt extension east end (100mm pavement, 150mm 25mm gravel, 600mm 75mm pit-run structure).
  - b. TP 312 compliant Runway Strip surrounding new extension.
  - c. Runway end area (90m beyond Runway Strip) on east end to comply with recommended RESA specifications.
- 2. Design, supply and install an LED runway lighting system that includes edge, precision approach path indicator and threshold lighting;**

- a. Runway edge lights – medium intensity yellow/white, 1/3 of TORA length.
  - b. APAPI – abbreviated precision approach path indicator lights for both runway approaches. Runway 28 APAPI will be installed in 2024. Upgradeable to 4-lightbox PAPI configuration in the future.
  - c. Red/green threshold lights (2 sets of 6 for 23m runway).
  - d. RTIL – Runway Threshold Identifier Lights – pair of directional flashing lights at each end of the runway.
- 3. Design, supply and install a complete LED apron lighting system;**
- a. Taxiway and apron edge lights.
  - b. Apron exit lights.
  - c. Apron floodlighting near proposed air terminal building and fuel facility.
- 4. Install windcones with LED lighting;**
- a. Illuminated and frangible windsock for each runway approach.
- 5. Design, supply and install electrical infrastructure upgrades to support the new lighting system;**
- a. Install new electrical building for power distribution to airfield lighting.
  - b. Airfield lighting current regulator and 5 kV cable installation.
  - c. ARCAL pilot radio control of airfield lighting.
- 6. Design, supply and install required line painting upgrades to the asphalt runway and apron areas;**
- a. Runway threshold, identifier, centerline, and aiming point markings to be repainted in spring 2024 to accommodate runway extension.
  - b. Runway hold position markings on Taxiway A and B.
- 7. Design, supply and install required airside security fence upgrades to the runway and apron areas;**
- a. Airside fence boundary between helicopter hangar and north side of operations area to secure apron area, future fueling area, and future air terminal building.

NOTE: The magnetic azimuth of the runway centerline has changed over time since the original construction of the airport. As of late 2023, the actual magnetic bearings of runways 10 and 28 were 113° and 293° respectively, therefore the runway designation should be updated on site and through the Canadian Flight Supplement to Runway Designations 11 and 29, respectively. Completion of item 6, above, in 2024 could incorporate these changes.

The proposed Canadian Flight Supplement (CFS) entry for Fort St. James (Perison) Airport at the completion of Phase 1 should appear approximately as follows:

| FORT ST. JAMES (PERISON) BC |  | CYJM |
|-----------------------------|--|------|
| REF                         | N54 23 50 W124 15 46 2.4S<br>17°E (2023) UTC-8(7) Elev 2364'                                   |      |
| OPR                         | District 250-996-7161 Reg  |      |
| PF                          | C-1,2,4,5  |      |
| FLT PLN<br>FIC              | Kamloops 866-WXBRIEF (Toll free within Canada) or 866-541-4101 (Toll free within Canada & USA) |      |
| SERVICES                    | S 5,7  |      |
| RWY DATA                    | Rwy 11(113°)/29(293°) 4265x75 asphalt<br>RESA 11 492'<br>RCR Opr                               |      |
| LIGHTING                    | 10-AS(TE ME) AP, 28-AS(TE ME) AP ARCAL -123.2 type K   |      |
| COMM                        | ATF tfc 123.2 5NM 5400 ASL   |      |
| CAUTION                     | Trees to 90 AGL 220' fr N rwy edge.  |      |

Figure 3.3.1. Anticipated 2024 CFS Entry for Fort St. James (Perison) Airport

As discussed in Section 4, limitations of the airfield may lead to further improvements required to accommodate a broader range of aircraft, particularly commercial air carriers. To prepare for this, the runway edge lighting systems have been installed to accommodate a future widening of the runway, and minimize the work required to relocate the lighting systems at that time.

### 3.4 Phase 2 – Fuel Facility, Helipads and AWOS

As outlined in Section 3.2, facility improvements have been identified in phases of priority, beginning with runway improvements. Subsequent phases envision aircraft fueling facilities, a weather station, and supporting infrastructure primarily to serve wildfire fighting operations during the summer months and med-evac as required.

Projected for 2025 and subsequent years, the community anticipates continued access to BCAAP funding provided it aligns with the scope and the balance of funding can be made available through the municipal operating budget. Phase 2 of the development strategy compliments the runway and lighting improvements undertaken in 2023 and will provide critical services to support aerial wildfire operations for the region. The scope also provides enhanced services for general aviation and anticipated commercial aviation to support the local and remote indigenous communities, regional tourism and industry, and the community of Fort St. James. It is anticipated to have this phase commence in summer 2024 and completed within one calendar year.

The following detailed scope of work for Phase 2 is anticipated based on receiving approval on the application as submitted.

## **Fuel Facility**

A new fuel storage and dispensing facility providing 24 hr/day access and accountability for both aviation fuels to support the airport's day to day operations and critical climate related wildfire support.

- (1) – 60,000 Litre Jet A-1 aviation fuel storage tank – double-walled ULC-S601
- (1) – 2,260 Litre Avgas fuel storage – double-walled ULC-S601
- Dedicated truck offloading concrete pad and access lane
- Oil/Water separator to protect fuel handling and storage areas
- Fuel facility accessory equipment such as:
  - Jet A-1/Avgas fuel loading skid/cabinet for truck and into-plane fueling
  - Tank monitoring system with environmental alarms/controls
  - Point-of-sale terminal and fuel management system.

## **Automated Weather Observation System**

Nav Canada certified AWOS I or II system to provide real-time weather data relevant to the Fort St. James airport and surrounding area.

- Includes sensing equipment for reporting wind speed and direction, altimeter, temperature, dew point, and density altitude. Optional visibility sensor (AWOS II).
- Voice Generator Sub-System (VGSS) processor for data broadcasting over VHF.

## **Rotary Aircraft Support**

Designated parking area for helicopters adjacent to the apron/movement area.

- Accommodates a full type range of equipment from Heavy to Type 4 including:
  - Sikorsky S-61 and Skycrane
  - Bell 214/212/412/204/205/206
  - Eurocopter Astar AS350
- Includes expansion of apron/helipad lighting system, pavement markings.

Paved helipad, including FATO, lighting, and contained drainage for aircraft refueling up to S-61 (heavy) type rotary aircraft.

## **Aerodrome Upgrades**

Improvements to the apron area and perimeter fencing to establish a level of safety and security for the airfield and aircraft.

- Pavement/concrete rehabilitation and apron edge line painting along the west and south sides of apron adjacent to the access road and proposed fuel facility.
- Perimeter fencing upgrades c/w security access gates and signage at key areas of the airfield which are open to surrounding properties, roads, and trails.
- Minor landscaping requirements.
- CFS update to identify fuels, helipads, lighting and AWOS.

## Power System Upgrades \*

Upgrades to the power system would enhance reliability of airport access, fueling services, and provide capacity for current and future electrification initiatives.

- Upgrade the site electrical service to 3-phase to support high-efficiency pump equipment at the fuel facility and support future charging capacity for both ground-based electric vehicles (EV) and future electric vertical take-off/landing aircraft (EVTOL).
- Back-up diesel generator to maintain airport beacon, airfield lighting during power failures or extended power interruptions.
  - Supports apron lighting and fueling operations as needed.

Power System Upgrades identified above are not required as part of Phase 2, however, these systems would be essential to install and commission prior to the scope contemplated in Phase 3. Power System Upgrades may be considered a separate phase (ie Phase 2B) depending on scope, timeline, and funding as agreed to by stakeholders. The electrical service upgrade would also be subject to BC Hydro extension of suitable 3-phase powerline infrastructure to the airport property line.

## 3.5 Phase 3 – ATB and Groundside Improvements

Following the major improvements to the airfield and airside services underway and proposed in Phases 1 and 2, the remaining scope of the development strategy involves mostly groundside improvements and capacity for processing flights and passengers, with the necessary airfield security and other amenities to consider scheduled flights and possible future Transport Canada airport certification.

The cornerstone of a functioning public aerodrome is the Air Terminal Building (ATB), where passengers, airline representatives, and airport operations staff interact on a daily basis with arriving and departing flights, whether they are rotary, fixed wing, charter, scheduled or private flights.

The ATB is also a gateway to the community, presenting an opportunity to showcase the region's history and culture, and providing information on amenities, accommodation, tourism opportunities and other features of the surrounding area.

The following considerations should be part of the business case and design basis for constructing and operating an ATB at the Fort St. James aerodrome:

- Architectural design or modular construction
  - An architecturally designed structure is visually appealing, customized to suit the airport's requirements, and typically have a longer lifespan than a pre-fabricated modular structure.
  - A modular structure, usually an assembly of one or more standard pre-engineered rectangular structures offered by Boxx, ATCO, Shelter Industries and other well-established manufacturers. The modular approach is much more economical, however, still requires assembly, fit-out, and servicing by a building contractor.

- Check-in/passenger processing area for up to two simultaneous flights
- Historical area, artifacts and storyboards for promotional and educational purposes
- Indoor and outdoor seating areas
- Restrooms
- Space reserved for potential food/drink concessions, rental car agencies
- Training/meeting rooms
- Pilot services room
- Flexible space for various user groups, including revenue generation by corporate or recreational use.

Additional initiatives which should be considered part of Phase 3 of the Development Strategy include:

- Construction of a new septic tank and leach field to accommodate new ATB sewage requirements.
- Extend perimeter fencing to secure exposed areas of the aerodrome perimeter near the ATB and tenants.
- Asphalt paving of airport access road off Airport Road, including parking area adjacent to the ATB to accommodate up to 20 standard vehicles and at least one EV charging station.
- Groundside flood-lighting for the ATB and parking areas, including closed-circuit security (CCTV) system for groundside areas and airside access gates.
- Welcome sign at the entry of the airport access road.
- Secondary modular building to serve ancillary needs such as overflow, events, Search & Rescue (SAR), Med-Evac and BC Wildfire Service (BCWS) operations temporary headquarters.

Fire protection of the airport facilities and users is currently restricted to municipal response with equipment likely located in town with an extended response time. Consideration could be given, depending on growth of airport activity, to equip the airport with dedicated Aircraft Rescue and Firefighting (ARFF) equipment, water tank, and a supply of fire suppression agents, particularly class B foam for flammable liquids such as aviation fuels.

### 3.6 Future Considerations

Longer term, the Fort St. James airport strives to achieve a safe, reliable and affordable air connection to other local and intermediate airports, ultimately connecting YJM to the world. An important step in achieving this level of service is certification of the airport with Transport Canada. Certification is required for regular scheduled passenger service, however it places responsibility on the airport operator to maintain the airport to a standard that could be subject to Transport Canada audits on a routine basis. One of the requirements for certification is full-perimeter fencing of the aerodrome property, which enhances aircraft and public safety by reducing unauthorized activity on the aerodrome property, and reduces wildlife intrusions. This has a significant cost associated with it and would need to be considered as part of the economic evaluation of certification.

Another significant long term consideration is runway widening to suit a broader array of aircraft types. The Dehavilland DHC-8 series of aircraft is currently not compatible with the 23m runway width at Fort



St. James airport, and requires a minimum width of 30m. As mentioned in Section 3.3, the lighting improvements constructed as part of Phase 1 contemplated this possibility, which will significantly reduce the typical costs associated with runway widening due to relocation of underground infrastructure. See Section 4.1 for more details.

## 4.0 OPPORTUNITIES

### 4.1 Airlines

A compatibility analysis has been conducted to review the active fleet and series of aircraft which could foreseeably have operations into and out of the Fort St. James airport. This analysis is presented in Appendix 2. In general, the airport is compatible with most turboprop or single engine aircraft in use by private, commercial, charter and industry users. These aircraft typically fall into Aircraft Group Numbers (AGN) I and II, with limited capability to service aircraft in AGN IIIA. Aircraft Group Numbers are defined mostly by wing-span, speed and tail height as detailed in Section 1.2 of TP 312 5<sup>th</sup> Edition. See the column labelled 'OVERALL' which indicates the technical compatibility of aircraft types with the runway/taxiway sizes at Fort St. James airport.

There are two key limitations of the Fort St. James airport that restrict its serviceability level to AGN IIIA and lower:

- Physical runway width (asphalt surface); and
- Object Limitation Surface (OLS) – including runway strip and object free zone surrounding runway.

These two restrictions generally preclude the use of the runway by jet engine powered aircraft due to the higher approach speeds. The other consideration is the distance between the main landing gear wheels, or Main Gear Width (MGW), of the Dash-8 / Q-400 series of Bombardier aircraft which is now one of the most frequently used commuter aircraft by many regional and national air carriers. However, it is understood that specific procedures and operations standards can be put in place by both the airport and airline operator to permit the aircraft type to use the aerodrome on either a temporary or permanent basis. This may be particularly important considering the Q-400 aircraft is increasingly being used by aerial fire fighting operators such as Conair Aerial Firefighting.

The city of Prince George, a 90-minute drive to the east from Fort St. James, is at the heart of the Cariboo and Nechako economic regions of British Columbia. Connection to this hub is vital to the success of many of the small airports in the region as Prince George is the gateway to much larger population with potential connection to the Fort St. James community and region. Four key carriers frequent the Prince George airport with scheduled commercial flights: Air Canada (Jazz), Westjet, Central Mountain Air, and Pacific Coastal Airlines. These airlines either have or are partnered with other airlines that have an aircraft mix capable of connecting to Fort St. James.

## 4.2 Land

The Fort St. James airport land occupies less than 24 hectares (ha) or 60 acres, over 85% of which is sterilized for development as either the Runway Strip or dedicated Airside Maneuvering Areas. Land development and leasing opportunities are therefore very limited unless land acquisitions, particularly those parcels to the immediate west and northwest of the Terminal Support Area, is considered in the future. The Land Use Plan drawing No. A-004 presented in Appendix 3 illustrates the available land outside of the aircraft operational areas.

### Existing Airport Operations

Apart from general aviation usage and charter/unscheduled commercial users, fixed base operations at the Fort St. James airport are limited to two current tenants:

- Yellowhead Helicopters – groundside parcel approximately 2 acres (8,000 m<sup>3</sup>). Includes structures, helipads, fuel system, access via airport access road.
- Interior Helicopters – Airside/groundside parcel approximately 0.5 acres (2,000 m<sup>3</sup>). Includes airside access to apron, hangar structure, fuel system, dedicated paved access from Airport Road.

Any other fixed base operations at the airport have either been transient in nature and not required any permanent infrastructure such as buildings, power, or other improvements.

### Expansion of Airport Operations

As illustrated in Drawing A-004 in Appendix 4, the capacity to expand similar airfield uses, labelled *Available/Future Lease Areas (Airside)*, is limited to approximately an additional 3 acres (1.2 ha), with even more limited apron access due to the 26m setbacks from the centerline of AGN II/IIIA Taxiway 'B'. Development to provide significant airfield access by fixed wing users would require land acquisition. One parcel of land stands out in particular, identified as Parcel 4 in Section 1.2.1. This 69 acre (28 ha) parcel is largely unoccupied and with over 900 metres of property boundary adjacent to the airfield, could offer up to a 4-fold increase in apron space and tenant space than the airport currently has.

Development on the north side of the runway would entail significant capital cost to acquire land and develop taxiway/apron access for airfield users. However, being disconnected from the planned ATB and fuel facilities proposed in Phases 2 and 3 of the development strategy would be less attractive to prospective airline operators and related businesses.

### Other Leasing / Revenue Opportunities

Existing lease rates for tenants are very low on a comparative basis with other regional airports. With the significant improvements, operational flexibility, and growth opportunities presented in Section 2.2, higher lease rates commensurate with other airports would be justified, particularly for existing and new tenants with airside access and the aircraft maneuvering areas.

## 4.3 Business Development & Public Awareness

The success of the Fort St. James airport, at whichever threshold of development is achieved through the available funding avenues, hinges on attracting business to the aerodrome through increased awareness and the opportunities the aerodrome presents to the airlines, businesses, tourism and the community.

Methodologies for increasing awareness can be both passive and active. The Canada Flight Supplement (CFS) registers airports' capabilities, infrastructure, and amenities in a database used by all private and commercial aircraft operators in Canada. Without any action by the community or airport operations, knowledge of an airport's improvements, fuel availability, etc will spread by word of mouth between pilots, commercial airline operators, and other businesses and attract air traffic that may have otherwise overlooked Fort St. James as a destination or stopping point.

Most airports have a dedicated website to provide information about the facilities and amenities of both the airport and surrounding community or region. An airport's website is often a gateway to what the region can offer, and should be linked to the community's website and other business or tourism sites, with appropriate permission from respective owners or operators.

There is currently no dedicated website for Fort St. James airport, and a general search for "Fort St. James airport" does not even list any direct links to the community. Relevant airports that do have websites include:

- Vanderhoof Airport (community website page - <https://vanderhoof.ca/residents/airport>)
- Burns Lake Airport (dedicated page - <https://burnslakeairport.com>)
- Mackenzie (community website page - <https://districtofmackenzie.ca/public-services/airport>)
- Fort Nelson (community website page - <https://www.northernrockies.ca/en/live-here/regional-airport.aspx>)
- Houston Airport (community website page - <https://www.houston.ca/airport>)

Websites offer a quick reference for both recreational and commercial aircraft to determine availability and cost of services, potentially resulting in much higher frequency of visits and therefore potential revenue.

## 5.0 OPERATIONS

### 5.1 Overview

The Fort St. James airport is currently operated and maintained by the municipality, as originally provisioned under Section 928 of the B.C. Municipal Act, and now under the Local Government Act

Generally, the airport operator is responsible for providing for asphalt and concrete repairs, grass cutting, grading, snow removal, line painting, and utilities. As an unmanned aerodrome, there is currently little involvement by municipal staff in the day-to-day use of the facility by fixed wing and rotary aircraft. Under the Canadian Aviation Regulations, users are required to contact the aerodrome as provided for in the Canada Flight Supplement manual for any specific information about the facility prior to making a VFR / Non-Instrument approach.

Under ideal conditions, this may continue, however there are a number of issues that will contribute to higher costs which the municipality should consider in developing future operating budgets.

1. Ongoing operations and maintenance of new and proposed infrastructure;
2. Airfield maintenance to support winter operations and night operations;
3. Full and part-time labour and administration to advertise and otherwise increase awareness of the airport in general, as well as functionality offered with new improvements.

The annual operating costs are discussed in the next section, with provisions for anticipated cost increases based on the development of facilities under Section 3.1 through 3.3. Revenue opportunities to offset these forecast increases are discussed in Section 5.3.

### 5.2 Operating Budget

Table 5.2, taken from the District's 2023-2027 Budget<sup>4</sup>, presents the current budget provisions for specific to the maintenance and operation of the Fort St. James airport. Drafted prior to the approval of the first phase of the Development Strategy, it presents subsequent operating years with basic inflationary and cost-of-living increases (roughly 2% per annum) to select cost items only.

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<sup>4</sup> Draft budget V7 download at <https://fortstjames.civicweb.net/filepro/documents/96694/>

| AIRPORT COSTS                         | Budget Year   |               |               |               |               |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                       | 2023          | 2024          | 2025          | 2026          | 2027          |
| Airport Liability                     | 6,242         | 6,367         | 6,494         | 6,624         | 6,889         |
| Airport Property Insurance            | 350           | 350           | 350           | 350           | 350           |
| Machine & Hand Patching               | 1,082         | 1,104         | 1,126         | 1,149         | 1,195         |
| Crack Sealing                         | -             | -             | -             | -             | -             |
| Grading Shoulders and Apron           | 162           | 165           | 168           | 171           | 178           |
| Snow Removal                          | 2,165         | 2,208         | 2,252         | 2,297         | 2,389         |
| Line Painting                         | 8,500         | 8,500         | 8,500         | 8,500         | 8,500         |
| Airport Maintenance & Operation       | 400           | 400           | 400           | 400           | 400           |
| Airport Water System                  | 3,000         | 3,000         | 3,000         | 3,000         | 3,000         |
| Airport Power                         |               |               |               |               |               |
| <b>NET Project 435: Airport Costs</b> | <b>21,901</b> | <b>22,094</b> | <b>22,290</b> | <b>22,491</b> | <b>22,901</b> |
| <b>TOTAL Dept 38: AIRPORT</b>         | <b>21,901</b> | <b>22,094</b> | <b>22,290</b> | <b>22,491</b> | <b>22,901</b> |

Figure 5.2.1 Current Airport Maintenance Budget

The following budget consideration should be reviewed in detail by the District to amend future revisions of the 2024 and 5 year draft budgets.

**Development Strategy – Phase 1 (2024 budget year onward)**

- *Projected Cost Increases (2024 onward)*
  - Low lying airfield lighting equipment will require occasional bulb and part replacements due to normal wear and tear and accidental damage from snow removal equipment or other damage.
  - RTIL, APAPI, beacon, and AWOS system may require occasional recalibration or repair by outside specialists.
  - Electrical infrastructure may require routine health checks to ensure continued safe operation.
  - Power consumption will increase due to ready-state equipment such as the ARCAL, CCR, and Beacon, as well as demand during night-time use of the airfield.
  - Grading, grass cutting, and general property inspection costs will increase based on the runway extension and extended runway end safety area.
- *Revenues*
  - Tenant lease increases following renegotiation as of December 31, 2023.
  - User-pay initiatives such as landing fees, aircraft parking, temporary storage, etc.

**Development Strategy – Phase 2 (In addition to Phase 1) (assumed to be implemented in 2024 for the budget exercise)**

- *Cost increases (for 2025 onward)*

- Fuel facility maintenance, including consumables (filters, spill equipment, etc) and specialized but routine quality control requirements. The upgrade to 3-phase power to the entire facility will provide higher efficiency but not provide a measurable cost saving.
- Fuel facility access road maintenance.
- Annual AWOS inspection and calibration.
- Incremental inspection, grading, repair of additional gravel and/or asphalt helipad areas.
- Power consumption increase for area lighting and operation of fuel facility.
- *Revenues (in addition to those implemented in Phase 1)*
  - Sales and throughput charges for aviation fuels to airport users. This will be a substantial revenue source while still being the most cost-effective solution for potential heavy consumers such as BCWS or other event-generated traffic.

**Development Strategy – Phase 3 (In addition to Phase 1 & 2) (assumed to be implemented in 2025 for the budget exercise)**

- *Cost increases (for 2026 onward)*
  - An Air Terminal Building will require staffing during periods of flight activity that use the public facilities.
  - Power consumption increases can be expected, primarily due to new HVAC equipment in the ATB and SAR buildings.
  - Winter maintenance cost increases to maintain the service road and parking areas adjacent to the ATB.
- *Revenues (in addition to those implemented in Phases 1 & 2)*
  - Structured user-pay system for scheduled cargo and passenger aircraft.
  - Concession leases inside the ATB.
  - Other groundside or airside leasing opportunities arising from rising airport usage over time.

In addition to inflation and cost-of-living considerations, cost increase based on the Development Strategy have been incorporated into Table 5.2.2.

- Phase 1 increases of 10%-30% have been applied to certain elements of the 2024 budget year, reflecting items above.
- Phase 2 increases of 10% have been applied to most elements of the 2024 budget year.
- Phase 3 increases of 10%-20% have been applied to several items, with 300% applied to Maintenance & Operations due to staffing expectations.

| <b>AIRPORT COSTS</b>   | <b>Budget Year</b> |               |               |               |               |
|--|--------------------|---------------|---------------|---------------|---------------|
|  | <b>2023</b>        | <b>2024</b>   | <b>2025</b>   | <b>2026</b>   | <b>2027</b>   |
| <i>Airport Liability<sup>a</sup></i>   | 6,242              | 6,991         | 7,830         | 8,770         | 8,945         |
| <i>Airport Property Insurance<sup>a</sup></i>  | 350                | 385           | 424           | 466           | 466           |
| <i>Machine &amp; Hand Patching</i>   | 1,082              | 1,190         | 1,309         | 1,335         | 1,362         |
| <i>Crack Sealing</i>   | -                  | -             | -             | -             | -             |
| <i>Grading Shoulders and Apron<sup>b</sup></i>   | 162                | 198           | 221           | 226           | 230           |
| <i>Snow Removal<sup>b</sup></i>  | 2,165              | 2,641         | 2,958         | 3,313         | 3,380         |
| <i>Airport Maintenance &amp; Operation<sup>e</sup></i>   | 8,500              | 9,350         | 10,285        | 30,855        | 30,855        |
| <i>Airport Water System</i>  | 400                | 400           | 400           | 400           | 400           |
| <i>Airport Power<sup>c d f</sup></i>   | 3,000              | 3,900         | 4,680         | 5,616         | 5,616         |
| <b>NET Project 435: Airport Costs</b>  | <b>21,901</b>      | <b>25,055</b> | <b>28,107</b> | <b>50,981</b> | <b>51,254</b> |
| <b>TOTAL Dept 38: AIRPORT</b>  | <b>21,901</b>      | <b>25,055</b> | <b>28,107</b> | <b>50,981</b> | <b>51,254</b> |
| <b>Notes:</b>  |                    |               |               |               |               |
| a. Considers capital investments made in 2023, 2024, and 2025  |                    |               |               |               |               |
| b. 2024 – higher rate of 20% applied to grading and snow removal due to presence of edge lighting              |                    |               |               |               |               |
| c. 2024 – higher rate of 30% applied to Airport power due to electrical building and use of airfield lighting. |                    |               |               |               |               |
| d. 2025 – additional 20% increase due to new fuel facility   |                    |               |               |               |               |
| e. 2026 – Airport M&O increase considers part-time staffing requirements                                       |                    |               |               |               |               |
| f. 2026 – additional 20% increase due to new ATB and SAR buildings   |                    |               |               |               |               |

Figure 5.2.2 Proposed Airport Maintenance Budget



## 6.0 RECOMMENDATIONS

Development of a business strategy for the airport, including appropriate staffing, budget, advertising and website to promote public awareness and increase reliability/availability of airfield for aircraft operators.

Conduct open houses, public tours, social media, flight club advertising in 2024 with completion of Phase 1 (and possibly promotion of Phase 2 activities if approved).

Develop a business plan which extends revenue generation to public use initiatives for the aerodrome property during periods of low usage, including motor sports events and community gatherings and events. Ideally these should be coordinated with emergency services providers and other user to ensure they are compatible with the airport environment, continued use as required, and tenant operations.

Proceed with Phase 2, timing subject to access to funding.

Proceed with Phase 3, timing subject to access to funding.

Land parcel 5 (referred to in Section 1.2.1) should be acquired from the Crown to provide for the RESA/runway extension project and future runway extensions as future growth dictates.

Land parcel 4 (referred to in Section 1.2.1) should be acquired from the current owner to secure the airport's ability to expand services and revenues beyond the limited capacity of existing infrastructure and in response to potential market demand in the future.

Land use assignments should be aligned to represent airport lands. Existing covenants or easements on land parcels surrounding the airport should be assessed for adequacy and/or negotiated to ensure structure heights comply with OLS requirements and to restrict land uses not compatible with the adjacent airport use.

## 7.0 REFERENCES

1. Olmstead and Associates, October 29, 1990, Airport Development Masterplan Update for Fort St. James (Perison) Airport
2. Grant Thornton, June 15, 2021, Fort St. James 2021-2026 Tourism Strategy  
<https://fortstjames.civicweb.net/filepro/documents/150/?preview=80256>
3. District of Fort St. James, 2018-2022 Strategic Plan  
<https://fortstjames.civicweb.net/document/41043/>

# 8.0 APPENDICES

| Appendix 1 |  | Aerodrome Data – Relevant and Regional BC Airports |
|------------|--|--|
| Appendix 2 |  | Aircraft Compatibility Analysis                    |
| Appendix 3 |  | Development Strategy Phasing Plans (1-3)           |
| Appendix 4 |  | Land Use Plan                                      |
|            |  |  |

**APPENDIX 1**  
**Aerodrome Data - Relevant and Regional BC Airports**  
*(Effective July 2023)*

| COMPARABLE REGIONAL AIRPORTS IN BRITISH COLUMBIA |                                |                              |                   |            |            |              |             |             |           |                |                             |                          |          |          |             |          |           |            |              |             |
|--|--------------------------------|------------------------------|-------------------|------------|------------|--------------|-------------|-------------|-----------|----------------|-----------------------------|--------------------------|----------|----------|-------------|----------|-----------|------------|--------------|-------------|
| AIRPORT CODE                                     | COMMUNITY / AREA               | COMMUNITY (POP) <sup>1</sup> |                   | ELEV. (M)  | CERT (Y/N) | RUNWAY ID    | RUNWAY DATA |             |           |                |                             |                          | FUEL Y/N | ATB Y/N  | HELI / FATO | LIGHTING |           |            |              |             |
|  |                                | LOCAL                        | IR                |            |            |              | AGN         | LENGTH      | WIDTH     | SURFACE        | RUNWAY ENDS <sup>3</sup>    | SAFETY AREA <sup>4</sup> |          |          |             | RUNWAY   | THRESHOLD | TAXI/APRON | VGSI         | APPROACH    |
| CBBC   | Bella Bella                    |                              | 1193              | 43         | Y          | 13/31        | II          | 1100        | 23        | Asphalt        | N                           | 65m, 50m                 | Y        | Y        | Y           | N        | N         | N          | N            | N           |
| CYBD   | Bella Coola                    |                              | 937               | 36         | Y          | 5/23         | IIIA        | 1280        | 30        | Asphalt        | DT (23) 60m                 | >150m (2)                | Y        | Y        | Y           | N        | N         | N          | N            | N           |
| CYPZ   | Burns Lake                     | 1659                         | 33                | 714        | N          | 11/29        | II          | 1550        | 23        | Asphalt        | N                           | >150m (1)                | Y        | Y        | N           | Y        | Y         | N          | PAPI         | RTIL        |
| CAJ3   | Creston                        | 5583                         | 93                | 638        | N          | 15/33        | IIIA        | 1202        | 23        | Asphalt        | N                           | >150m (2)                | Y        | Y        | N           | Y        | Y         | N          | PAPI         | N           |
| CYJM   | Fort St. James                 | 1386                         | 1128 <sup>2</sup> | 720        | N          | 10/28        | II          | 1200        | 23        | Asphalt        | N                           | >150m (2)                | N        | N        | N           | N        | N         | N          | N            | N           |
| <i>CYJM<sup>5</sup></i>                          | <i>Fort St. James</i>          | <i>1386</i>                  | <i>1128</i>       | <i>720</i> | <i>N</i>   | <i>10/28</i> | <i>II</i>   | <i>1300</i> | <i>23</i> | <i>Asphalt</i> | <i>N</i>                    | <i>&gt;150m (2)</i>      | <i>N</i> | <i>N</i> | <i>N</i>    | <i>Y</i> | <i>Y</i>  | <i>Y</i>   | <i>APAPI</i> | <i>RTIL</i> |
| <i>CYJM<sup>6</sup></i>                          | <i>Fort St. James</i>          | <i>1386</i>                  | <i>1128</i>       | <i>720</i> | <i>N</i>   | <i>11/29</i> | <i>IIIA</i> | <i>1300</i> | <i>23</i> | <i>Asphalt</i> | <i>N</i>                    | <i>&gt;150m (2)</i>      | <i>Y</i> | <i>Y</i> | <i>Y</i>    | <i>Y</i> | <i>Y</i>  | <i>Y</i>   | <i>APAPI</i> | <i>RTIL</i> |
| CYLI   | Lillooet                       | 2302                         | 285               | 400        | N          | 14/32        | II          | 1200        | 23        | Asphalt        | N                           | 150m, 65m                | Y        | N        | Y           | N        | N         | N          | N            | N           |
| CYZY   | Mackenzie                      | 3281                         |                   | 690        | N          | 17/35        | IIIA        | 1500        | 30        | Asphalt        | N                           | >150m (2)                | Y        | Y        | N           | Y        | Y         | N          | PAPI         | N           |
| CWNP   | Nakusp                         | 1589                         |                   | 515        | N          | 21/30        | II          | 900         | 23        | Asphalt        | N                           | >150m (2)                | N        | N        | N           | N        | N         | N          | N            | N           |
| CAT4   | Qualicum Beach                 | 9303                         | 82                | 89         | Y          | 11/29        | I           | 1086        | 23        | Asphalt        | DT (11) 150m<br>DT (29) 60m | >150m (11)               | Y        | Y        | Y           | Y        | Y         | N          | APAPI        | N           |
| CYRV   | Revelstoke                     | 8275                         |                   | 444        | N          | 12/30        | IIIA        | 1571        | 23        | Asphalt        | DT (30) 200m                | 60m (Rwy 12)             | Y        | Y        | N           | N        | N         | N          | N            | N           |
| CZAM   | Salmon Arm                     | 19432                        |                   | 534        | Y          | 14/32        | II          | 1300        | 23        | Asphalt        | SW (14) 60m                 | 100m (Rwy 32)            | Y        | Y        | Y           | Y        | Y         | N          | PAPI         | RTIL        |
| CZML   | South Cariboo / 108 Mile House | 5312                         |                   | 954        | N          | 15/33        | II          | 1500        | 23        | Asphalt        | DT (15) 120m                | >150m (2)                | Y        | Y        | N           | Y        | Y         | N          | VASI         | N           |
| CAU4   | Vanderhoof                     | 4346                         |                   | 679        | N          | 07/25        | II          | 1450        | 23        | Asphalt        | DT (25) 65m                 | >150m (2)                | Y        | N        | N           | Y        | Y         | N          | PAPI         | ODAL        |

**NOTES:**

- 1 Statistics Canada - Census 2021. IR = Indian Reserve and/or local First Nation populations
- 2 Includes rural populations of Tl'azt'en and Nak'azdli First Nations
- 3 DT = Displaced Threshold; SW = Stopway
- 4 Safety Areas appear to be graded flat grassy areas, potentially qualifying as RSA or RESA
- 5 Data set for CYJM following completion of Phase 1 infrastructure improvements
- 6 Data set for CYJM following completion of Phases 2 and 3

**APPENDIX 2**

**FORT ST. JAMES (PERISON) AIRPORT - AIRCRAFT COMPATIBILITY ANALYSIS**

Theoretical compatibility (Marked by 'X' in the column labelled OVERALL) is calculated based on Transport Canada TP-312 5th Edition criteria, aircraft specifications and CYJM runway/taxiway parameters.

Note: Runway length is not part of the calculation. Aerodrome usage is at pilot/airline discretion and/or airline operating regulations.

| Manufacturer                 | ICAO Code | Model                                      | Engine    | YJM Rwy/Taxi (Yes/No)           | AAC | YJM COMPATIBILITY |                     |             |                       |                        |         | Approach Speed Vref (Vref = 1.3*Vso) | Wingspan (m) | Length (m) | Tail Height, m (@ OEW) | Wheelbase (m) | MGW (Outer to Outer) (m) | MTOW (lbs) | MTOW (kg) |
|------------------------------|-----------|--|-----------|---------------------------------|-----|-------------------|---------------------|-------------|-----------------------|------------------------|---------|--------------------------------------|--------------|------------|------------------------|---------------|--------------------------|------------|-----------|
|                              |           |  |           |                                 |     | AGN Runway        | AGN Runway w/ Speed | AGN Taxiway | Runway Width Required | Taxiway Width Required | OVERALL |                                      |              |            |                        |               |                          |            |           |
|                              |           |  |           | CYJM Runway Length 1200 m       |     |                   |                     |             |                       |                        |         |                                      |              |            |                        |               |                          |            |           |
|                              |           |  |           | CYJM Runway Width 23 m          |     |                   |                     |             |                       |                        |         |                                      |              |            |                        |               |                          |            |           |
|                              |           |  |           | CYJM Taxiway Width (min) 10.5 m |     |                   |                     |             |                       |                        |         |                                      |              |            |                        |               |                          |            |           |
| CELLS AUTO-CALCULATED        |           |  |           |                                 |     |                   |                     |             |                       |                        |         |                                      |              |            |                        |               |                          |            |           |
| ATR (Aérospatiale/Alenia)    | AT43      | ATR-42-300/320                             | Turboprop | Yes                             | B   | IIIA              | IIIA                | IIIA        | 23.00                 | 10.50                  | X       | 104                                  | 24.56        | 22.68      | 7.59                   | 8.79          | 4.88                     | 36,825     | 16,704    |
| ATR (Aérospatiale/Alenia)    | AT44      | ATR-42-400 (upgraded version of 320)       | Turboprop | Yes                             | B   | IIIA              | IIIA                | IIIA        | 23.00                 | 10.50                  | X       | 104                                  | 24.56        | 22.68      | 7.59                   | 8.79          | 4.88                     | 36,825     | 16,704    |
| Beechcraft                   | B190      | 1900C                                      | Turboprop | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 109                                  | 16.61        | 17.63      | 4.55                   | 7.26          | 5.85                     | 16,600     | 7,530     |
| Beechcraft                   | B190      | 1900D                                      | Turboprop | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 109                                  | 17.60        | 17.58      | 4.70                   | 7.26          | 5.85                     | 17,120     | 7,766     |
| Beechcraft                   | BE10      | King Air 100 (B100)                        | Turboprop | Yes                             | B   | I                 | I                   | I           | 18.00                 | 7.50                   | X       | 111                                  | 14.00        | 12.17      | 4.70                   | 4.24          | 4.18                     | 11,800     | 5,352     |
| Beechcraft                   | BE20      | King Air 200 and 250                       | Turboprop | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 98                                   | 16.61        | 13.33      | 4.57                   | 4.57          | 5.23                     | 12,500     | 5,670     |
| Beechcraft                   | BE30      | King Air 300 and 300LW (Limited Weight)    | Turboprop | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 107                                  | 17.65        | 14.22      | 4.37                   | 4.95          | 5.23                     | 14,000     | 6,350     |
| Beechcraft                   | B350      | King Air 350ER (B300, B300C)               | Turboprop | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 107                                  | 17.65        | 14.23      | 4.37                   | 4.67          | 5.64                     | 16,500     | 7,484     |
| Beechcraft                   | B350      | King Air 350i (current production model)   | Turboprop | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 107                                  | 17.65        | 14.23      | 4.37                   | 4.95          | 5.23                     | 15,000     | 6,804     |
| Bombardier                   | CRJ2      | CRJ 100/200 Standard                       | Jet       | Yes                             | C   | II                | IIIB                | II          | 18.00                 | 7.50                   |         | 140                                  | 20.93        | 26.77      | 6.32                   | 11.40         | 4.04                     | 47,450     | 21,523    |
| Bombardier                   | LJ35      | Learjet 35/36, 35A/36A                     | Jet       | Yes                             | D   | I                 | IIIB                | I           | 18.00                 | 7.50                   |         | 143                                  | 12.04        | 14.83      | 3.73                   | 7.62          | 3.35                     | 18,000     | 8,165     |
| Bombardier (DHC)             | DHC6      | Dash 6 Twin Otter (DHC-6-100/200)          | Turboprop | Yes                             | A   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 75                                   | 19.81        | 15.77      | 5.89                   | 3.71          | 4.53                     | 11,566     | 5,246     |
| Bombardier (DHC)             | DHC6      | Dash 6 Twin Otter (DHC-6-300)              | Turboprop | Yes                             | A   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 75                                   | 19.81        | 15.77      | 5.89                   | 3.71          | 4.53                     | 12,500     | 5,670     |
| Bombardier (DHC)             | DHC7      | Dash 7 Series 100 (DHC-7-100/101)          | Turboprop | No                              | A   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 83                                   | 28.35        | 24.54      | 7.98                   | 7.95          | 8.57                     | 44,000     | 19,958    |
| Bombardier (DHC)             | DHC7      | Dash 7 Series 150 (DHC-7-150/151)          | Turboprop | No                              | A   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 83                                   | 28.35        | 24.54      | 7.98                   | 7.95          | 8.57                     | 47,000     | 21,319    |
| Bombardier (DHC)             | Q400      | Dash 8 Q400                                | Turboprop | No                              | C   | IIIA              | IIIB                | IIIA        | 45.00                 | 23.00                  |         | 125                                  | 28.42        | 32.84      | 8.36                   | 13.94         | 9.56                     | 65,200     | 29,574    |
| Bombardier (DHC)             | DH8A      | Dash 8 Series 100 (DHC-8-101)              | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 92                                   | 25.91        | 22.25      | 7.49                   | 7.95          | 8.57                     | 33,000     | 14,969    |
| Bombardier (DHC)             | DH8A      | Dash 8 Series 100 (DHC-8-102)              | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 92                                   | 25.91        | 22.25      | 7.49                   | 7.95          | 8.57                     | 34,500     | 15,649    |
| Bombardier (DHC)             | DH8A      | Dash 8 Series 100 (DHC-8-103)              | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 92                                   | 25.91        | 22.25      | 7.49                   | 7.95          | 8.57                     | 35,200     | 15,966    |
| Bombardier (DHC)             | DH8A      | Dash 8 Series 100 (DHC-8-106)              | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 92                                   | 25.91        | 22.25      | 7.49                   | 7.95          | 8.57                     | 36,300     | 16,465    |
| Bombardier (DHC)             | DH8B      | Dash 8 Series 200 (DHC-8-201/202)          | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 92                                   | 25.91        | 22.25      | 7.49                   | 7.95          | 8.57                     | 36,300     | 16,465    |
| Bombardier (DHC)             | DH8C      | Dash 8 Series 300 (DHC-8-301)              | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 99                                   | 27.43        | 25.68      | 7.49                   | 10.01         | 8.57                     | 41,100     | 18,643    |
| Bombardier (DHC)             | DH8C      | Dash 8 Series 300 (DHC-8-311)              | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 99                                   | 27.43        | 25.68      | 7.49                   | 10.21         | 8.57                     | 43,000     | 19,504    |
| Bombardier (DHC)             | DH8C      | Dash 8 Series 300 (DHC-8-314/315)          | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 30.00                 | 15.00                  |         | 99                                   | 27.43        | 25.68      | 7.49                   | 10.21         | 8.57                     | 43,000     | 19,504    |
| Bombardier (DHC)             | DH8D      | Dash 8 Series 400 (DHC-8-400/401/402)      | Turboprop | No                              | B   | IIIA              | IIIA                | IIIA        | 45.00                 | 23.00                  |         | 120                                  | 28.42        | 32.84      | 8.36                   | 13.94         | 9.56                     | 64,500     | 29,257    |
| British Aerospace (BAe)/Avro | B461      | BAe 146-100, 100QC, 100QT                  | Jet       | Yes                             | C   | IIIA              | IIIB                | IIIA        | 23.00                 | 10.50                  |         | 121                                  | 26.34        | 26.19      | 8.61                   | 11.20         | 5.49                     | 84,000     | 38,102    |
| British Aerospace (BAe)/Avro | B462      | BAe 146-200, 200QC                         | Jet       | Yes                             | C   | IIIA              | IIIB                | IIIA        | 23.00                 | 10.50                  |         | 122                                  | 26.34        | 28.55      | 8.61                   | 11.20         | 5.49                     | 93,000     | 42,184    |
| British Aerospace (BAe)/Avro | B463      | BAe 146-300, 300QC, 300QT                  | Jet       | Yes                             | C   | IIIA              | IIIB                | IIIA        | 23.00                 | 10.50                  |         | 123                                  | 26.34        | 30.99      | 8.59                   | 11.20         | 5.49                     | 99,500     | 45,132    |
| Cessna                       | C208      | 208 Caravan                                | Turboprop | Yes                             | A   | II                | II                  | II          | 18.00                 | 7.50                   | X       | 79                                   | 15.87        | 11.46      | 4.55                   | 3.56          | 3.56                     | 8,000      | 3,629     |
| Cessna                       | C208      | 208B Grand Caravan EX/Super Cargomaster EX | Turboprop | Yes                             | A   | II                | II                  | II          | 18.00                 | 7.50                   | X       | 79                                   | 15.87        | 12.67      | 4.60                   | 4.06          | 3.56                     | 8,807      | 3,995     |
| Cessna                       | C560      | Citation V, Ultra                          | Jet       | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 107                                  | 15.90        | 14.90      | 4.57                   | 6.07          | 5.57                     | 16,300     | 7,394     |
| Dornier                      | D328      | Do 328-110                                 | Turboprop | Yes                             | D   | II                | IIIB                | II          | 18.00                 | 7.50                   |         | 142                                  | 20.98        | 21.23      | 7.06                   | 7.42          | 3.58                     | 30,843     | 13,990    |
| Embraer                      | E170      | EMB 175 AR                                 | Jet       | No                              | C   | IIIA              | IIIB                | IIIB        | 30.00                 | 15.00                  |         | 124                                  | 26.01        | 31.67      | 9.86                   | 11.40         | 6.25                     | 89,000     | 40,370    |
| Piper                        | PA18      | PA-18-150 Super Cub                        | Piston    | Yes                             | A   | I                 | I                   | I           | 18.00                 | 7.50                   | X       | 48                                   | 10.76        | 6.86       | 2.04                   | 5.08          | 1.84                     | 1,750      | 794       |
| Piper                        | P28A      | PA-28-235 Cherokee                         | Piston    | Yes                             | A   | I                 | I                   | I           | 18.00                 | 7.50                   | X       | 65                                   | 9.75         | 7.25       | 2.22                   | 1.89          | 3.21                     | 2,900      | 1,315     |
| Piper                        | PA34      | PA-34-220T Seneca III, IV, V               | Piston    | Yes                             | A   | I                 | I                   | I           | 18.00                 | 7.50                   | X       | 81                                   | 11.86        | 8.72       | 3.02                   | 2.13          | 3.38                     | 4,750      | 2,155     |
| Saab                         | SF34      | SF 340                                     |           | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 114                                  | 21.44        | 19.74      | 6.98                   | 9.14          | 4.88                     | 29,000     | 13,154    |
| Short Brothers               | SH36      | Shorts 360                                 |           | Yes                             | B   | II                | II                  | II          | 23.00                 | 10.50                  | X       | 114                                  | 21.44        | 19.74      | 6.98                   | 9.14          | 4.88                     | 29,000     | 13,154    |















