Feasibility Study Overview

The community of Vanderhoof, British Columbia is exploring ways to address negative impacts from the Mountain Pine Beetle infestation through economic diversification. Collaborative strategic planning and the implementation of new technologies are being sought in an effort to strengthen and diversify the regional economy.

This study examines the viability of creating and operating a two-year commercial pilot diploma program in the community, through the cooperation of the College of New Caledonia (the College), the District of Vanderhoof, and the local flight school. The goal of developing such a program in Vanderhoof is to cater to students who have an interest in northern aviation and provide an opportunity for these students to study and work in the north. In so doing, northern aviation industry can be fostered as a whole and supported for economic diversification opportunities.

Funding for the study comes from Western Economic Diversification Canada and Northern Development Initiative Trust. Community support for the study is expressed by Steering Advisory Committee input and participation from the municipal and regional governments, School District #91, the local chamber of commerce, local and regional aviation interests, local small business, and First Nations.

A. Commercial Pilot Industry in Northwestern Canada

Canada's northwestern aviation sector is unique in comparison to other parts of the globe. It offers a full range of aviation opportunities, from commercial airliners to coastal float sight-seeing to remote northern outfitting and bush operations. It also offers some of the most diverse terrain in the world, from oceans to mountains to glaciers to pastures. Add to this the competitive Canadian dollar, less congested airspace, seasonal weather, and high quality training and safety standards, and northwest Canada becomes an excellent place to learn to fly (Air Transport Association of Canada (ATAC) 2009).

Air services requiring commercial pilot licenses (airline passenger transport, just-in-time-delivery services, medevac, fire-fighting, cargo transport, etc.) have been in great demand in Canada since 2001 (ATAC 2001). Prior to the recent global economic downturn, transportation systems underwent a fundamental transformation to adapt to the surging demand from global trade (Barry 2008). Corridors were developed by transport companies to efficiently move products across vast distances, and air cargo grew at a rate nine times faster than the volume carried by ships (Barry 2008). Since September 2008, the global economic crisis has slowed air service demand as the world sorts out financial chaos. While significant, the slowdown in air service is expected to be short-lived. The aviation industry is cyclical and producers need air transport to aid development and environmental interests during these tough times.

In 2001, the Human Resource Study of Commercial Pilots in Canada (ATAC 2001) cited several areas needing to be addressed by the Canadian aviation industry, including a gap between training standards and skills required by industry, and potential shortages in the future numbers of qualified commercial pilots. A follow-up study in 2003 (Sypher:Mueller 2003), indicated new aviation growth areas would be seen in smaller, modern turbo prop and jet aircraft operations serving high frequency regional markets. Today, an aging workforce of experienced pilots looking to retire, pilots seeking foreign opportunities, and active recruiting by the military are creating new career opportunities at all levels for Canadian pilots, not just the major airline positions (ATAC 2009).

During today's economic downturn, the potential for economic diversification in northern BC is vast, but this potential can only be achieved if business and industry are able to recruit and hire sufficient personnel in the Natural and Applied Sciences sector (Barry 2008), a sector of which commercial pilots are a subset. northern BC's population is younger than the provincial average by 5%, but it suffers from a chronic net outflow of migrants (Barry 2008). Regardless of the global economy, northern BC's aviation industry is crucial for serving remote areas, not only for passenger transport, but also for medevac, fire, and cargo services. Data from 2001 showed a dwindling surplus of commercial pilots throughout Canada (ATAC 2009), and although the global economy has slowed air services recently, the demand for pilots in northern BC is projected to far exceed supply between 2007 and 2015 because of regional factors (Barry 2008).

To ascertain what is currently happening in the industry, the College of New Caledonia conducted a survey of Northern Air Operators (**Appendix I**) as part of this feasibility study. Economic downturns in the industry (after 9/11, during the recent decline in forestry, and the current global economic crisis), have forced many Northern Air Operators to function on extremely lean budgets, partner with competitors in their region and provide less choice to the consumer, or consider going out of business. Operators still managing to hold on are serving northern residents through transport and fulfilling contracts vital to the region's economic diversification strategies. These operators hire full-time and part-time commercial pilots from outside the region and provide them with substantial and recurrent in-house training over the course of three to five years, in an effort to develop seasoned personnel who can manage all aspects of the business. New pilots with low hours often seek northern opportunities to gain much needed experience and take advantage of the chance to log more hours than they would in the south. The vast majority of these pilots move back to the south after a three to five year stint when they log enough hours to apply to a large airline.

In the past, large air operators drew upon military personnel who retired or completed service contracts and took positions in the private sector. Airlines are no longer able to draw upon the military in the same numbers, and are now turning to smaller regional carriers to fill their needs, thus leaving smaller operators to scramble for replacements and at times forced to lower hiring criteria in order to fill vacated positions.

The lure of larger airlines becomes tantalizing to pilots with increased flight time because it can equate to a position that offers more time-off/better scheduling, a greater variety in work location, a chance to pilot more sophisticated aircraft, better medical benefits, and/or a home-base location with more amenities (**Appendix I**). When trained personnel leave to go elsewhere, Northern Air Operators are forced to start anew in their hiring process and must wait another three to five years until they have personnel trained to the level of the pilot who recently left.

Exacerbating the problem is the dwindling number of commercial pilot training programs in operation outside the southern part of BC. Since 2000, eight private flight training operations for commercial pilots have closed in the northern BC communities of Williams Lake, Quesnel, Prince George, Vanderhoof, Smithers, Terrace, Fort St. John, and Dawson Creek. Today there are three private flight training schools left for fixed-wing aircraft in the Canadian Northwest: Williams Lake, BC, Vanderhoof, BC and Whitehorse, Yukon (Stier 2009).

The goal of the proposed program in Vanderhoof is to provide an opportunity for northern students to study and work in the north. In so doing, it is hoped the northern aviation industry

can draw upon a pool of individuals who wish to remain in and contribute to the industry of the region.

B. Why a Two-Year Diploma Program?

There is no post-secondary diploma or university degree requirement by Transport Canada to be a commercial pilot. A student wishing to obtain a commercial pilot's license can do so by completing course work at any certified flight school. However, like the Canadian military who has traditionally required its pilots to hold a university degree, evidence indicates employers now show preference to candidates with higher education (ATAC 2009). Recruiters view higher education as important in demonstrating a candidate's ability to reason. Pilots with higher education also tend to possess personal incentive and discipline, and are easier to insure (ATAC 2009, Stier 2009). In addition, Transport Canada requires individuals to have a strong command of written and spoken English (ATAC 2009), which is also part of a diploma program.

> *"Industry statistics indicate many air operators hire their new pilots directly out of aviation colleges or flight schools. Air operators have indicated graduates from college or university generally make better pilots because of the broader education they receive."*
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> *2001 Human Resource Study of Commercial Pilots in Canada, Air Transport Association of Canada*

Graduates from college and university aviation programs receive education in the management of systems, information, and people, not just flight training. Successful college education demonstrates the student is trainable and can stick to a challenging curriculum and thrive; qualities an air operator would like to know the student possesses before hiring him/her and spending more money on training that student in-house.

Northern Air Operators state they want staff who communicate well, represent the company in a professional manner, understand the business as a whole, and have a "do-it-all" attitude from cleaning the hangar to piloting the aircraft. Northern geography is vast, but all pilots use a limited number of landing facilities and must communicate frequently with one another in what is referred to for the purposes of this document as the "Northern Pilot Network". Through this network, operators easily ascertain which pilots are professional and show personal initiative, and which pilots are undisciplined and/or show a sense of entitlement.

C. Proposed Program Site Suitability

Prior to the current global economic crisis, northern BC was experiencing abrupt economic changes from a forestry decline and began examining economic diversification strategies to sustain its communities. The vast geography of the region ensures there will be a continuous need for individuals in possession of a commercial pilot's license to provide air services despite economic volatility.

History of Flight in the Area and the Vanderhoof Airport

In the early 1920's, inhabitants of Vanderhoof witnessed aircraft landings in nearby pastures as pilots flew various delivery, military, and exploration flights to Alaska and the Yukon. Landings by the Royal Canadian Air Force (RCAF) on nearby lakes and rivers were also witnessed as aerial mapping began in the area in the late 1920's (Weicht 2004: 181-182). By the early 1930's mining fever was mounting in the region, with mining camps being set up in nearby Fort St. James and several area planes carrying supplies (NVHS 1979: 82-83). A landing strip was constructed on the Cocker and Emslie farm north of Vanderhoof in October 1937. Originally intended for emergencies, this strip was an alternate landing site along a Pan American route

that originated in Washington State and continued on to Alaska (Sedgwick 2008: 32-33). Pan American's goal at the time was to put in radio stations along the route (Dog Creek, Quesnel, Vanderhoof, Takla Landing, Dease Lake, Whitehorse, etc.) for navigation, but the US based company could never get the licenses required from the Canadian government (Weicht 2009). Although the early Vanderhoof landing strip was rarely used in its early existence, a Pan American passenger plane did make a stopover there on its way to Alaska in November 1941 (NVHS 1979: 83; Weicht 2004: 184)

The bombing of Pearl Harbor brought the US into World War II (WW II) and a flurry of military activity to Canada's west coast. In 1942, half a section of land (320 acres or ~791 hectares) was expropriated by the Department of National Defense for the clearing and preparation of three gravel runways just north of Vanderhoof (Weicht 2004: 184). This half section encompassed the original strip at the Cocker and Emslie farm and was then chosen as an intermediate airfield on the route between Prince George and Smithers (Weicht 2004: 184). A significant Japanese submarine presence during WWII along the Canadian coast and the Aleutian Islands of Alaska prompted the RCAF to fly daily photographic surveys of Vanderhoof and Prince George (Weicht 2004: 185; 2009). The RCAF's Western Air Command then ordered the construction of barracks, a mess hall, and other buildings at the Vanderhoof airfield to house a radio range station to serve as a navigational aid and allow aircraft to carry out instrument approaches (Weicht 2004:185). In May 1943, the Vanderhoof airfield was designated as the "Number 14 Staging Unit", one of a series of airfields constructed or upgraded along BC's WWII Inland Staging Route whose purpose was to handle military aircraft as a second line of defense in the case of a Japanese invasion of coastal airports (Weicht 2004: 185).

By 1946, the war was over and the Department of National Defense turned the Vanderhoof airfield over to the Department of Transport. A few years later a public wharf and dock were established on the Nechako River for float plane use (Weicht 2004: 186), and Russ Baker founded Central Airways in nearby Fort St. James. In 1951 a scheduled service was flying from Prince George to Terrace via Smithers, with a flag stop in Vanderhoof (Weicht 2004: 186). In April 1959, control of the airport was passed from the Department of Transport to the District of Vanderhoof (Weicht 2004:185).

In September 1964, the Vanderhoof Flying Club was organized and took over maintenance of one of the RCAF buildings to provide visiting pilots with a washroom and telephone (Weicht 2004:185; EBA 200). This club organized a series of successful international annual air shows making Vanderhoof the place to be on the last weekend in July. In late 1972, Harrison Airways of Vancouver began a tri-weekly scheduled service to Vanderhoof and Burns Lake. Unfortunately, this service lasted for less than three years (Weicht 2004: 186).

In 2005, the District of Vanderhoof examined the aging runways at the Vanderhoof Airport, determined an upgrade was in order, and rehabilitated the main runway, 25-07, to bring it back to a standard similar to its original construction (EBA 2005). In 2008, the District of Vanderhoof approved and acquired funding for the installation of a new airport lighting and navigation system in order to provide 24-hour service and medevac flight access to the community. Further planning by the District of Vanderhoof includes the installation of an Automated Weather Observing System (AWOS) and the development of an airport improvement plan to provide the community with more alternatives for its airspace and landing facilities.

The Community of Vanderhoof

Vanderhoof, BC (population~ 4,000) was founded in the early 1900s near the geographic centre of BC, in what is defined as the northern interior Omineca Region. Not only is it centrally located, it is also easily accessible by water and land, as it lies on the banks of the Nechako River, approximately 100 km (60 miles) west of Prince George along Highway 16 (the Yellowhead Highway). Vanderhoof's economic sustainability is decidedly northern-focused and has traditionally come from the natural resource sectors of forestry, agriculture, and tourism/recreation. Mountain Pine Beetle infestations, US sanctions on Canadian beef, and a slowing tourism industry resulted in an economic downturn in the area prior to the current global crisis. Thus, during the past two years, the District of Vanderhoof has had a sense of urgency to innovate and diversify the local and regional economies.

Vanderhoof's topography of gently rolling fields and year-round access makes it ideal for flying. Its central location provides pilots with easy access to different geographic features such as rivers, mountains, lakes, pastures, etc., as well as a nearby air traffic control tower in Prince George. Unlike Prince George, Vanderhoof's air traffic is light, making it attractive for training programs when compared to other training facilities in more congested airspace. In addition, Vanderhoof is home to one of the three remaining fixed-wing, private operating flight training schools in northwest Canada.

Within the community of Vanderhoof is the Omineca Medical Clinic which can provide a Category 1 Medical, a requirement by Transport Canada for students enrolled in commercial pilot licensing programs. Also located less than five minutes from the Vanderhoof airfield is the College of New Caledonia. The College boasts a well-established local campus in Vanderhoof, and provides ready access to classroom space for non-flight instruction. Additionally, the College offers efficient and effective administration, management, and support to all stages of diploma programs, as well as their development and delivery.

Community Benefits

The community of Vanderhoof supports offering a two-year commercial pilot diploma program through the College of New Caledonia in cooperation with the local flight school. At the onset of this feasibility study, a Steering Advisory Committee was established to provide input from the community on what type of program would best benefit it and the surrounding region. Participation on the Committee includes: The District of Vanderhoof, School District #91, the Regional District of Bulkley Nechako, the Carrier Sekani Tribal Council, Community Futures Stewart Nechako, the Vanderhoof Chamber of Commerce, the College of New Caledonia, and local and regional aviation businesses. Committee meetings in November 2008 and March 2009 have helped to guide this study and explore potential benefits of the proposed program.

The proposed two-year commercial pilot diploma program in the community of Vanderhoof will:

- Provide specific knowledge-based infrastructure that will in turn generate long-term sustainable economic benefits to the community by the creation of employment opportunities for instructional staff, support staff, and aircraft and equipment maintenance and repair;
- Enhance local businesses that could provide services to program participants and delivery of agents of the program (i.e. aircraft maintenance, accommodations, food, transportation, fuel, lubricants, and other suppliers);
- Increase the cultural diversity of the area by attracting and retaining skilled labour and professionals from other parts of BC and Canada;

- Provide international exposure that could lead to enhanced tourism for the area; and
- Provide opportunity for local students to receive a high level of qualification in a profession.

The Vanderhoof Airport currently experiences some tourism-related aircraft activity associated with its historic WWII flying route and its convenience as a stop-over between the lower US mainland and Alaska. If the airport housed a two-year commercial pilot diploma program, and the airport were regularly maintained and equipped as a result, the airport's tourism use would likely increase (EBA 2005: 19).

In addition, mining and exploration interests have increased in the region during the past few years, with many of these businesses relying on corporate aircraft as a cost-effective tool for transporting workers, supplies, and executives to a site. Costs for these companies are reduced with the ability to access work sites effectively and efficiently. If the airport housed a two-year commercial pilot diploma program, mining and exploration companies could easily service much of the region through the centrally located Vanderhoof Airport, while utilizing the services of local fuel suppliers, aircraft mechanics, and pilots.

D. General Program Model

The goal of developing an aviation diploma program in Vanderhoof, BC is to cater to students who have an interest in northern aviation. The program does not have the intention of competing with existing aviation diploma programs, but rather seeks opportunities to partner with these programs in order to best benefit students in the region and provide a credential that best benefits northern aviation.

The proposed commercial pilot diploma program is envisioned to be delivered in five semesters over a 20-month period, with one- or two-week breaks in between each semester. Thus, the program will be slightly accelerated and augmented when compared to a traditional two-year, four semester program. The program will take students through the private (PPL) and commercial (CPL) fixed-wing licenses, while providing non-flight courses in business training, and will offer an opportunity to add-on a float rating. Following completion of the diploma and CPL, the student will have the opportunity to add-on an instructor rating or a commercial helicopter license. If the student wishes to acquire multi-engine and multi-engine instrument flight rules (IFR) training, he/she will have the opportunity to ladder to a partnered program to do so, and receive his/her diploma from the College upon completion. If the student wishes to acquire a Bachelor of Business Administration or a Bachelor of Business Administration in Aviation, he/she will also have the opportunity to ladder to a partnered program to do so, and receive his/her degree from the partnering institution.