Niagara Falls International Airport

A Bi-National Air Cargo Gateway

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Fall 2006

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Table of Contents

Table of Figures

Section 1: Industry Trends

Section 2: Criteria for Success

Section 3: Unique Location

Section 4: Buffalo Niagara Human Capital

Section 5: Facilities & Activity at NFIA

Section 6: Competitive Landscape

Section 7: Expansion Room

Section 8: Potential Economic Benefits

Section 9: Case Studies

Overview

Background of NFIA

Since opening in 1928 as a city-owned airfield, the Niagara Falls International Airport has gone through several transformations. During World War II the airport began active military use by the United States Air Force which over time expanded runways and added a control tower, high intensity lights, and an instrument landing system. Since 1970, the Niagara Frontier Transportation Authority (NFTA) has owned and operated the airport primarily for general aviation with a small amount of air cargo and air charter operations. A partnership with the military continues today with the United States Air Force Reserve and New York Air National Guard jointly operating out of the airport.

For over fifty years, the Buffalo Niagara region has been evolving from a geographically compact, traditional manufacturing center, to a more service oriented component of a greater bi-national region that includes the area surrounding the Canadian city of Toronto, Ontario. As municipalities within this greater region concern themselves with economic development—especially in the face of structural changes of the global economy—it becomes important to identify and utilize existing infrastructure and resources effectively.

The Niagara Falls International Airport (NFIA) is an exceptional regional asset managed by an agency, the Niagara Frontier Transportation Authority (NFTA) that, uniquely in Western New York, transcends municipal and county boundaries. With essential physical infrastructure, ample room for growth, a strategic geographic location, and access to the logistics and international trade resources of the region, the Niagara Falls International Airport (NFIA) is poised to successfully enter the growing international air cargo market. How, though, might the NFTA leverage this asset to serve as a catalyst for economic growth that benefits the greater bi-national region?

The Vision

Utilize the unique assets at Niagara Falls International Airport and those of the greater bi-national region to promote international cargo operations and charter passenger flights.

Why Cargo?

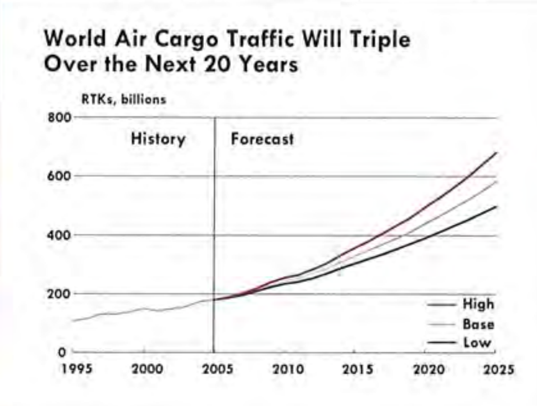
Air cargo plays a critical role in the global economy.

As globalization and trade liberalization increase the competitive landscape of production processes in the global economy, companies have moved to processes like "just-in-time" delivery and component outsourcing to increase efficiencies. In the global economy, cargo is the critical link between industries no matter where they are located; and in the United States, air cargo is the fastest growing component of the cargo market.

Demand for air cargo is experiencing substantial growth.

Industry estimates show around a six percent annual increase of cargo tonnage over the next twenty years, with world air freight traffic tripling over the next twenty years.

Source: Niagara County Center for Economic Development (2006)
Aerial photograph of Niagara Falls International Airport facing Southeast.



Source: Boeing (2006)
Air cargo traffic is projected to increase between 5.3% and 6.9% annually through 2025.

Why Passenger Charters?

Similar to the air cargo industry, passenger charter flights represent a segment of the aviation market experiencing growth. As many international charters use jumbo-size jets, passenger charter flights present an additional niche that NFIA's facility can meet that the Buffalo Niagara International Airport cannot.

As a globally known destination, millions of international tourists visit the US and Canadian sides of Niagara Falls on a yearly basis. Currently, many international travelers who visit the Falls enter North America outside the bi-national Niagara region. Marketing NFIA as a preferred point of entry for international tourists visiting North America could prolong visitors' stay in the immediate region and benefit various attractions throughout the bi-national region.

Additionally, a multi-use airport (i.e. charter and cargo) creates opportunities for Federal Aviation Authority (FAA) funding that would not be available to an all cargo facility.

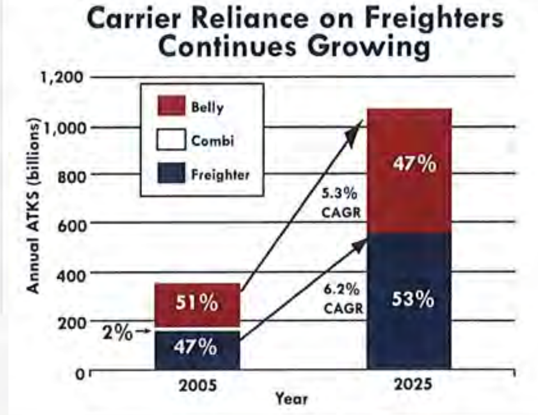
The expansion of the air cargo market coincides with a period in which integrated carriers like UPS, FedEx, and DHL are guaranteeing on-time delivery all across the globe. The growth in this segment of the industry has made air cargo a very competitive industry and forced the non-integrated carriers to seek ways to lower costs.

Changing industry trends are creating new opportunities for cargo airports.

In the past, international air cargo was mainly served by coastal gateway hubs with high volumes of air passenger activity. This was mainly due to the bulk of air freight that has traditionally been transported in the under-belly of passenger flights. However, as much of the growth in the air cargo industry is occurring in all-cargo air freighters, with excess space in passenger flights assuming a smaller share of the market, secondary cargo-focused airports are drawing cargo activity away from established coastal gateway airports.

The growth of air cargo presents an opportunity for "right sized" airports to enter the market, but success will depend on the combination of other strengths that offer carriers cost savings.

The most important airport assets are: a strategic location with access to a large growing market; ability to create a cost-effective structure for air cargo operations; access to highway networks to serve this market; and appropriate hard and soft infrastructure and cargo-friendly regulatory climate to handle large cargo planes and provide needed services for processing international cargo. Proximity and access to large markets affords a base of industries to use cargo services. A cost structure comprised of competitive landing fees, parking costs, handling



Source: Boeing (2006)

Transporting cargo in the excess storage, or "belly", space of passenger planes is projected to decrease.

fees, fuel charges, and transportation-to-market costs can lure cargo away from competitor airports with similar service areas. Soft infrastructure (e.g. presence of freight forwarders, efficient customs services, and a capable/reliable workforce), hard infrastructure (adequate runway length, cargo handling facilities, and physical space for expansion services) and a lenient regulatory framework (liberal noise restrictions, no curfews, and foreign trade zones), are strong selling points.

Why Niagara Falls?

Air cargo is a natural fit for the Niagara Falls International Airport (NFIA). With the basic facility requirements and ample space for growth, the opportunity to establish NFIA as a competitive cargo port can take advantage of the geographic and international trade experience of the region. As the region continues to position itself to meet the needs of the global economy, air cargo can be a great asset for the Buffalo Niagara region as it seeks its future economic niche and reestablishes itself as a premier transshipment port.

Source: GIS Datasets

This map illustrates the "One Day's Drive" bulls eye that surrounds the Niagara Falls International Airport. Trucks distributing goods from NFIA could reach 18 Cities with populations over 250,000, all of which are less than 600 miles away from the airport. The inner bulls eye represents a 100 mile radius surrounding NFIA.

The Niagara Falls International Airport possesses first rate geography for air cargo.

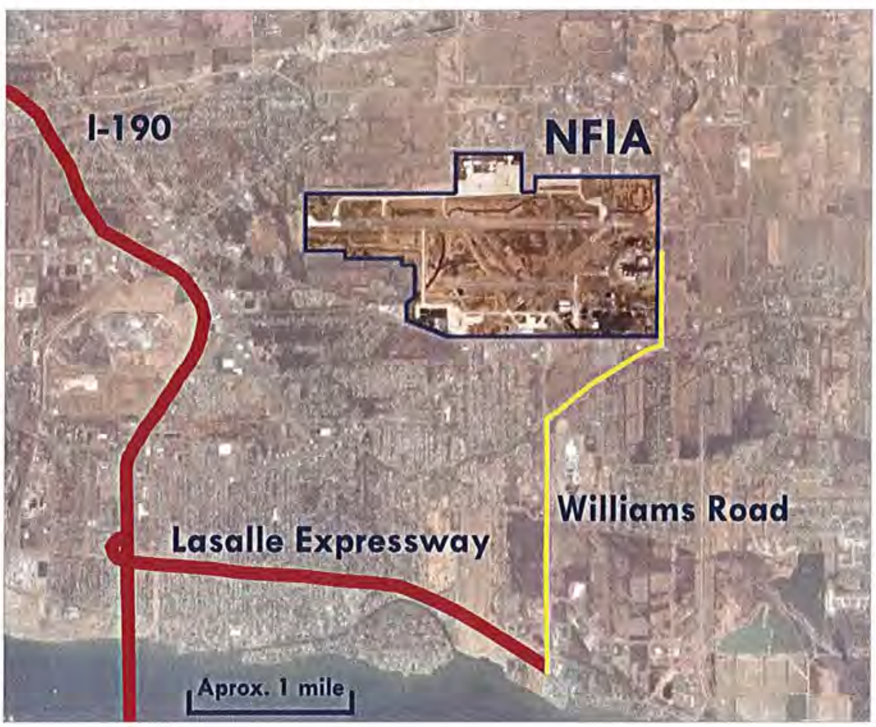
Possessing a strategic location that responds to industry demand can 'make or break' the prospects for attracting cargo activity to an airport. While facility improvements can be made to accommodate cargo tenants, location is a quality that cannot be replicated. The Niagara Falls International Airport's (NFIA) location is a tremendous asset that affords it a distinct advantage in the increasingly competitive air cargo industry.

NFIA is within a day's drive of 62% of the Canadian population and 55% of the United States population.

With this reach, NFIA can serve the air cargo needs of the dominant markets in the Northeastern and Midwestern US as well as Southern Ontario. Since cargo originating from Europe and Asia can have diverse destination points within the North American market, international air cargo carriers seek to operate at locations that have the greatest penetration into North American markets. The predominant industry rule of thumb for international cargo is that any market reachable by truck in one day's drive is within an airport's service area. Based on this definition, NFIA has a highly advantageous service area that compares favorably to Toronto, New York, Boston, and Chicago.

Within a matter of minutes, trucks hauling freight from NFIA can reach entry into the interstate highway system.

Timely and adequate access to interstate roads is a critical need for cargo airports, because a substantial share of goods that arrive via air are subsequently transported by truck to their final or interim destination. NFIA's road access via a direct route connecting to the NYS Interstate Highway affords phenomenal ground access to some of the largest US and Canadian markets. With direct access to the Peace Bridge and the Lewiston-Queenston Bridge, this portion of the interstate is readily accessible to the region's two border crossings approved for commerce by both the Canadian and US governments. The region's interstate extends to markets to the east and west with satisfactory connections to the south. Unlike many highways that connect to major gateway airports, these routes are rarely congested and not subject to substantial delays. Additionally, this access to ground transportation includes rail, such as the Conrail line that connects to the International Railroad Bridge, and extends onto the airport's property.



Source: Google Earth (2006)

A truck leaving from the airport access road on the eastern side of NFIA can reach Williams Road in 1.5 miles. This four-lane road meets up with the limited access LaSalle Expressway in 1.25 miles, which connects to the I-190 in a mere 2.7 miles.

NFIA can solidify Buffalo Niagara's position in the "Greater" Golden Horseshoe.

Anchored by the Greater Toronto Area, the Golden Horseshoe is a collective region comprised of numerous metropolitan areas clustered around the Canadian shores of Lake Ontario. As the fourth largest economic zone, and the third fastest growing urban area in North America, this region constitutes the economic center of Canada. Given the critical role that cross-border trade plays in this region, US and Canadian policy makers increasingly recognize that this region extends beyond the border to make up a larger bi-national region known as the Greater Golden Horseshoe (GGH).

While the definitive boundaries of the bi-national GGH are up for debate (some would argue it includes Rochester and extends as far as Syracuse), the Buffalo Niagara region has already established its niche in the bi-national area through its role as a trade gateway. Annually, $81 billion in international trade flows through the GGH across the international bridges in Buffalo and Niagara Falls. Although international and political barriers have hindered this region from advancing as a collective economic entity, the shared economic interest surrounding trade inherently connects Buffalo Niagara with the burgeoning economic region in Southern Ontario.

A Natural Extension of the Greater Golden Horseshoe

Source: Institute of Local Governance & Regional Growth (2006)

Given Buffalo Niagara's geography and trade relationship with Canada, it is a natural extension of the Golden Horseshoe.

In this sense, NFIA is not only an underutilized asset for the Buffalo Niagara region, but a piece of infrastructure that could contribute to the future economic growth of Toronto, its environs, and Southern Ontario.

Air cargo in the GGH is currently served by Pearson International Airport in Toronto, Hamilton International Airport (Ontario), Buffalo Niagara International Airport in Cheektowaga as well as modest levels at NFIA. The bulk of *international* cargo flows through Pearson in the under-belly of passenger flights, with Buffalo Niagara and Hamilton primarily serving domestic freight. As Pearson is becoming increasingly crowded with minimal expansion space, NFIA could become a complementary player in a wider GGH airport system. Specializing in wide-body air cargo freighters which cannot now, and will not in the future, be accommodated at Buffalo Niagara International Airport, NFIA could provide a cost effective alternative to Pearson for international goods destined for both the US and Canadian markets. Further, NFIA could complement current activity at Hamilton for some Canadian domestic freight.

The Buffalo Niagara region is already a leading gateway for international freight.

Few areas in the US rival the Buffalo Niagara region in its capability to service international trade and freight. The legacy established in the early 1800s when the Erie Canal solidified the region's role as the busiest inland port in North America continues to this day. While the day of the Erie Canal has long since past, the abundance of goods moving among the region's border crossings has made Buffalo Niagara the 8th busiest US International Freight Gateway and 4th for international freight traveling by ground. This positioning is even more impressive considering that if freight related to the automobile industry were excluded in this ranking, Buffalo Niagara would be the top land gateway, surpassing Detroit, Michigan, Port Huron, Michigan, and Laredo, Texas.

Responding to the needs of cross-border trade, the Buffalo Niagara region's workforce and business climate has extensive experience in providing the essential support services required to accommodate international freight. Primarily comprised of a burgeoning logistics industry that includes a knowledgeable base of customs brokers, freight forwarders and trucking companies, this "soft infrastructure" provides NFIA with a competitive edge that most inland airports do not have. This extends well beyond traditional freight service companies as many law firms, accounting firms, and banks have extensive experience in providing support services for international trade.

Buffalo Niagara is recognized as one of the most "logistic-friendly" regions in the US

According to a 2005 ranking of 362 Metropolitan areas by trade publications *Expansion Management Magazine* and *Logistics Today*, the Buffalo Metropolitan area is the 30th most logistics friendly metropolitan area in the US. Contributing to this ranking are the region's superior transportation and distribution workforce (14th) and the region's road infrastructure (6th).

Regional logistics companies are seeing considerable growth, mirroring national and global trends for the industry. According to the Buffalo Niagara Enterprise's 2005-2006 Annual report, seven of the thirty-eight projects (18%) that resulted in company expansion or relocation to this area were in the fields of logistics and distribution. Many of the growing firms are becoming even more specialized as third-party logistics operators. Third-party logistics suppliers (3PLs), or freight forwarders, are firms retained by various types of manufacturing companies to coordinate the geographically dispersed assembly and distribution of goods globally.

Perhaps most important for economic development purposes is the state tax benefits afforded to companies using logistics firms in New York. While New York State's tax structure has been cited as a hindrance to economic development, its tax provisions governing logistics and distribution are extremely friendly. Other than Nevada, New York is the only state in the US where third party logistics companies can store inventory within the state awaiting shipment without exposure to state taxation. This provides NFIA with an advantage other inland ports do not afford potential industries seeking a location from which to package and distribute their goods.

NFIA meets the infrastructure and spatial needs to become a competitive cargo-focused facility.

NFIA's current infrastructure and operating structure is well suited for air cargo.

With a runway spanning 10,825 feet in take-off length and over five feet in depth, any size plane can land at NFIA. Since many all-cargo freighters are oversized vessels requiring longer runway lengths than traditional passenger planes, adequate runway length is critical for facilitating air cargo.

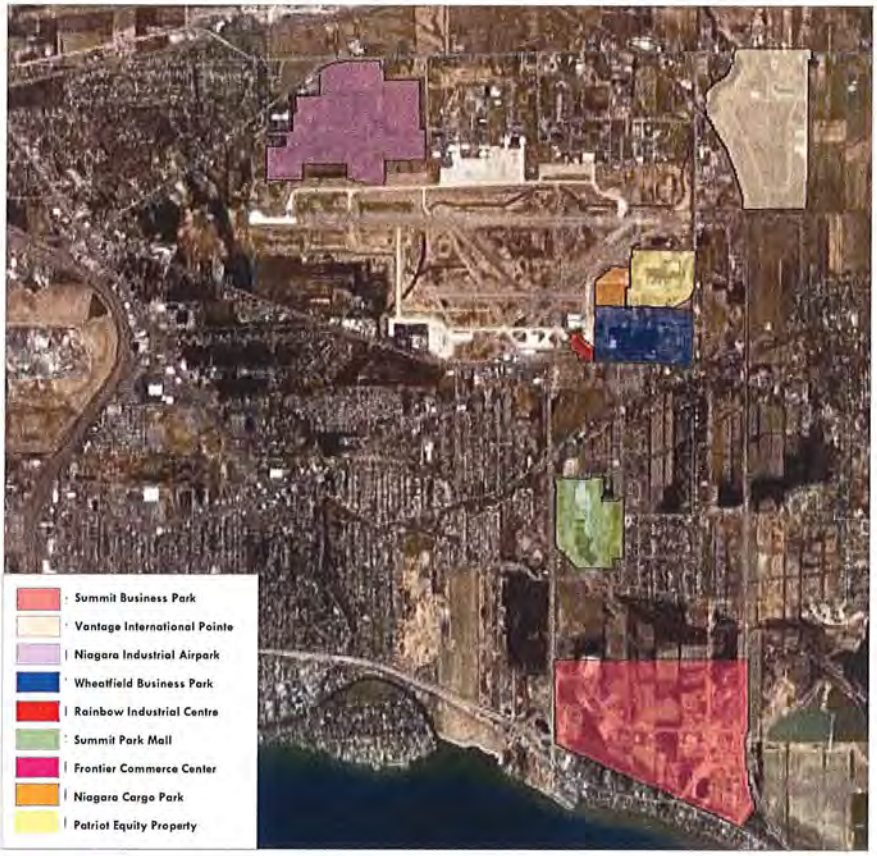
NFIA's 24-hour operation with no noise restrictions is another asset, as it allows cargo flights to operate at their convenience. This is particularly attractive to the air cargo industry since transporting goods at night takes advantage of the downtime when regular business operations do not occur. Additionally, contrary to the region's reputation for severe weather, NFIA is rarely closed due to inclement weather conditions. With only 19 percent of airside capacity being used at NFIA, there is substantial room for increase in flights. Air cargo activity would not detract from operations at Buffalo Niagara International Airport (BNIA) since it lacks the runway length to handle the jumbo jet freighters and is bound by noise curfews and more frequent weather induced delays.

Foreign Trade Zone designation is in place at NFIA.

Currently located adjacent to NFIA in the former Bell Aerospace property, Foreign Trade Zone No. 34 is an asset for attracting international and domestic air cargo activity to NFIA. As an area considered to be legally external to the US for customs purposes, a Foreign Trade Zone or Free Trade Zone (FTZ) allows foreign goods to enter free of customs duties and taxes, pending their eventual processing, trans-shipment or re-exportation. Companies operating within the FTZ can piece together components of a product without duty levied on individual parts. If destined for the US market, duty is only levied on the final product, while no taxes are applied to goods that are subsequently shipped internationally. Although FTZ No. 34 is currently dormant, an enhanced air cargo presence at NFIA could immediately bring it back to life. As cargo grows, there may be opportunities to expand the boundaries of the FTZ and move it to a location that best suits potential cargo tenants.

Ample capacity for expansion exists in and around the airport.

Due to the relative inactivity at the airport and surrounding areas, there is significant room at the airport for expansion for cargo processing and related industrial activities in the immediate surrounding area. On the airport site, this includes space for the development of cargo warehousing, an increase in the capacity of the fuel farm, parking for truck fleets, and room for a new passenger terminal to handle increases in passenger charters. Adjacent properties provide opportunities for manufacturing within the several industrial parks as well as many vacant buildings and sites that could be utilized to take advantage of increased cargo activities at the airport.



Source: Google Earth (2006)

Potential real estate properties for expansion of cargo-related activities.

Why Now?

The Market is Expanding.

The timing for an expansion into the air cargo market has never been better. As the air cargo market continues to expand and move away from overcrowded traditional coastal air hubs, inland ports like NFIA are playing important roles in both the international and domestic air cargo industry. While Niagara Falls is extraordinarily well situated to enter the air cargo market and be competitive, the window of opportunity is closing as other underutilized facilities in the US are undergoing conversions to cargo-focused facilities to meet this demand.

Traditional Gateways are at Capacity.

The growth of the air cargo market over the last two decades has begun to cause a strain on many of the traditional international air cargo hubs in North America. These traditional hubs include John F. Kennedy International Airport, Los Angeles International Airport, Toronto Pearson International Airport, Miami International Airport, and O'Hare International Airport in Chicago. Struggling to strike a balance between a growing commercial passenger industry and increased demand for air cargo, these airports have become congested and now have minimal capacity for expansion.

These heavily-congested, traditional gateway airports have continued their efforts to expand their cargo handling capacities to try to retain the business of their current cargo carriers. However, their geographic positioning, which historically placed them in close proximity to large metropolitan areas, severely limits their ability to expand beyond their current footprints. Also, the extremely competitive air cargo industry values quick access to markets. In effect, shipment by air is not an economical alternative if the goods are then stuck in traffic for many hours; which is often the case when goods are flown into large airports such as JFK, Toronto-Pearson, and O'Hare International.

> **"Airport use is changing, with many all-cargo carriers opting to avoid gateway airports that are congested, have restricted operating conditions or apply high charges. Unless there is a lot of interline traffic, most are opting for the smaller all-cargo airports, which have fewer restrictions, are cheaper and are more suitable for cargo."**
> **– Larry Coyne, President of the International Air Cargo Association, 2003**

The leading competitive advantage that these major airports possess is their high levels of passenger activity because a significant share of domestic and international air freight is currently transported in the underbelly of passenger flights. As these airports remain hubs for many international and domestic passenger airlines with hundreds of regularly scheduled flights daily from around the globe, major US airports still dominate a segment of the air cargo market.

However, trends indicate that the market is shifting away from under-belly freight and in favor of all-cargo air carriers. Research conducted by Airbus in 2004 predicts that by 2023, the freighter fleet will grow to 3,616 compared to the fleet of 1,506 in 2004. One significant trend influencing this shift is the emergence of low-cost airlines. Because their profits are dependent upon 25 minute turnaround times, these carriers are unable to carry cargo. Further, as the airline industry has demonstrated in recent years, major airlines are increasingly forced to follow trends of low-cost airlines to stay competitive. Coupled with increasing crowding and less dependence on passenger belly cargo, smaller secondary airports are capturing a significant share of dedicated cargo previously processed at gateway airports.

Secondary cargo-focused airports are growing.

The overcrowding of these traditional air cargo gateways, coupled with the emergence of third-party logistics suppliers and the shift from combination carriers to full-cargo planes, has lead some cargo carriers to relocate to smaller, lesser-known airports that provide comparable or better access to ground destinations. In addition to reduced runway congestion and speedy highway access, these dedicated cargo facilities offer low landing fees, expansion room for increased cargo activity, and few restrictions with respect to noise and time.

Some of these alternatives from traditional gateway airports include: Rickenbacker International Airport in Columbus, Ohio; Port of Huntsville in Huntsville, Alabama; Willow Run Airport outside of Detroit, Michigan; and Port San Antonio in San Antonio, Texas. These airports have been able to carve a niche in the domestic and international air freight market by obtaining and leveraging the assets necessary to respond to the changing global air cargo market.

As the air cargo industry changes with the emergence of jumbo-sized aircraft such as the Boeing 747 and Airbus A380, secondary airports can be expected to continue luring dedicated cargo carriers away from traditional gateway ports. Because the new generation of freighters

Source: Associated Press AP (2006)

Airbus A380 jet at Chek Lap Kok Airport in Hong Kong cannot be accommodated by the runway/taxiway system of most established airports, secondary airports can configure their infrastructure and facilities for jumbo jets, whereas spatially constrained traditional gateways may not.

While the success experienced by airports such as Rickenbacker in Columbus and Willow Run near Detroit bode well for the prospects of NFIA, they also demonstrate that the landscape for air cargo is becoming increasingly competitive. The infrastructure that is already in place at the airport, as well as the numerous other existing trade related assets within the region, afford NFIA the possibility to play a significant role in the growing air cargo market. This will only be possible if the right steps are taken now, in order to secure NFIA's position in the international cargo marketplace.

Momentum Exists at Niagara Falls International Airport.

Recent developments at the Niagara Falls International Airport have begun increasing the momentum to provide additional services in the future. These include: a small freight forwarding operation that now conducts limited cargo operations out of NFIA; a contract with a consortium of freight companies to expand cargo operations within the next two years; as well as the consideration of NFIA as a potential location for cargo operations and a destination for charter flights by several air cargo and passenger flight companies. These current efforts to expand service activity at NFIA will ensure a sense of its legitimacy in the eyes of both the air cargo industry in general and as a destination for future charter activity.

Kitty Hawk Air Cargo, a 100 percent freight forwarder, has been in operation at Niagara Falls International Airport since May of 2003. This company runs two flights per day, Tuesday through Saturday, out of the airport and leases a warehouse on NFIA property. This operation is helping to establish a foundation for air cargo growth at the airport and within the industry.

The NFTA also has signed a contract recently with Niagara Cargo Park, a consortium comprised of Speed Transportation Inc., Vista Cargo International Inc. and Atlas International Freight Forwarders USA Inc., to conduct air cargo services through the Niagara Falls International Airport. The contract obligates Niagara Cargo Park to complete construction of 35,000 square feet of warehouse space by 2009 followed by an additional 35,000 square feet of warehouse space within the following five years. In exchange, the NFTA will undertake facility improvements to supplement increased cargo activity.

There has also been increased activity in attracting both cargo and charter airlines to the airport with Myrtle Beach Direct, which will, commencing in March 2007, offer two charter flights per week out of the Niagara Falls International Airport into Myrtle Beach, South Carolina. Additional interest in NFIA has been expressed by others for flying both cargo and charter flights from international points of origin. The expansion of charter flights will ultimately benefit from a new passenger terminal, which is set to begin construction once funding is secured.

The increased activity at NFIA will make available additional funding sources that will be able to further the development of NFIA as an international air cargo hub. These funding sources include monies available through the Federal Aviation Administration's program titled the Airport Improvement Program. This program prioritizes its support for the safe and secure operation of airports and airway systems. However, a portion of these funds are distributed based on the activity and classification of an airport, and priority access to these funds will only be available once NFIA is well established as both a destination and point of origin.

How can the region benefit?

While it may be impossible to predict the exact impact that NFIA could have on the regional economy, the experiences of other emerging cargo-focused airports indicate that the benefits can be immense. In the most basic sense, this can translate into a substantial number of new jobs that will be directly involved with activities in and around the airport. Yet, on a much deeper level, air cargo at NFIA could precipitate a return of the region to its previous prominence as a national and international trade gateway, and open up doors to other larger opportunities in the global economy.

Air cargo is a job generator in itself.

The range of interrelated services that are necessary to support the air cargo industry in and of themselves generates many well paying jobs. A substantial number of jobs are required for transporting, handling and processing air freight. As cargo operations grow at NFIA, there will be an increasing demand for personnel to fly the cargo to/from NFIA, handle the goods being imported and exported via air carriers, to package goods included in freight loads, and to provide ground transportation from NFIA to terminal destinations. Additionally, a variety of ancillary jobs will be needed in the fields of air craft maintenance, fueling, customs clearance, and brokering, to name a few. These types of supporting activities are well compensated and can be expected to expand directly in proportion to the growth of activity at the airport.

NFIA can expand the region's role as an international logistics center.

In addition to the potential to create new jobs at the airport, enhancing cargo at NFIA will likely have a demonstrable impact on the emerging logistics cluster already present in the Buffalo Niagara region. As regional logistics companies are seeing considerable growth commensurate with national and global trends, logistics and distribution is a niche industry for the region that shows a great deal of promise. Air cargo at NFIA can expand the range and importance of this niche by providing an added dimension to the region's existing international trade infrastructure. Additionally, as the need for logistics expertise will inevitably increase with an expanded air cargo operation at NFIA, existing firms can be expected to expand while the potential exists for creating new firms and drawing logistics professionals and companies to relocate to the Buffalo Niagara region.

NFIA as an International air cargo facility can add to the region's overall competitiveness.

The types of industries most US regions seek to attract are often highly dependent on air cargo. Companies in high-technology electronics, aeronautics, pharmaceuticals and medical devices, and advanced manufacturing are increasingly adapting distribution and global assembly models that are highly dependent on air cargo. Establishing NFIA as a competitive cargo-focused airport and logistics center, will enhance the region's ability to attract and retain these types of industries, all of which have been identified by area economic development experts as strategic targets for development of the regional economy.

Air Cargo and the Life-Sciences Industry

Buffalo Niagara has been the point of origin for many breakthroughs in Bio-Medical Sciences, e.g. the prostate-specific antigen test for prostate cancer and the cardiac pace-maker. Few of these discoveries have led to production in the Buffalo Niagara region. In response, skepticism has arisen regarding the capability of the region to participate in the commercialization of discoveries emerging out of the University at Buffalo and its partners in the Buffalo Niagara Medical Campus. Taking full advantage of these promising initiatives requires multi-faceted economic development and strategic plans, but NFIA could play an instrumental role in retaining and attracting these types of industries to the region. Because pharmaceuticals and certain medical goods require temperature-controlled transportation to prevent contamination, they are predominantly transported via air freighters in specialized containers. As industry expert John Kasarda suggests, "With a high value-to-weight [ratio], a need for security, and perishability, the basic materials, intermediate products, and finished goods for the bio-science sector all tend to be shipped by air." Responding to the delicate treatment that many pharmaceutical and medical devices command, advancing NFIA's role as a specialized air cargo facility could have a catalytic effect on the emerging regional biotechnology and life science industry.

NFIA could become an additional resource for branding the region as an exceptional place to do international business. Buffalo Niagara is already an international region with its location on the border between the US and Canada, which constitutes the world's largest international partnership. While a number of Canadian firms currently have facilities and employees in Buffalo Niagara, the potential to draw investment and firms from overseas is currently limited by the absence of sufficient international air cargo capacity in the immediate region. As European and Asian firms become even more dependent upon air cargo to connect their inter-continental supply chains, regions that can accommodate international air cargo are frequently preferred trading partners for them.

How can it happen at NFIA?

NFIA is poised to become a competitive global air cargo facility and exert a considerable impact on the regional economy. While the prospects of NFIA should not be seen as a "silver bullet" solution, air cargo presents a unique opportunity to build off its current strengths as a logistics center while concurrently benefiting existing companies and attracting new ones into the region. Making this happen will not occur on its own nor will it materialize overnight. A wide range of stakeholders will need to come to the table to participate in the creation of a comprehensive approach to future economic development rarely seen in this region.

The Niagara Frontier Transportation Authority, as the only true regional body in Buffalo Niagara, is in a unique position to lead this effort and re-establish this region's predominance as a transportation hub. The key to accomplishing this lies in the NFTA's ability

Detailed Information on Air Cargo at NFIA

The balance of this report provides in-depth information and analysis on the argument presented in this overview.

Section One: Industry Trends details the expansive growth expected to occur in the global air cargo market in the coming years as well as industry trends pointing towards the emerging role that secondary cargo-focused airports will play in serving the increased demand for air cargo.

Section Two: Criteria for Success provides a comprehensive analysis of the components needed for secondary airports to capture a share of this growth. Drawn from research of the experiences of successful cargo-focused airports as well as contemporary reports from industry experts, this section provides detailed information indicative of where NFIA stands today and areas it can improve upon in the future.

Section Three: Unique Location describes NFIA and the Buffalo Niagara region's strategic location as it relates to the air cargo industry.

Section Four: Buffalo Niagara Human Capital illustrates the region's workforce and educational capacity to support air cargo activities at NFIA.

Section Five: Cargo Facilities & Activity at NFIA provides an outline of the current infrastructure and regulatory capacity to handle air cargo at NFIA as well as existing cargo activity at the airport.

Section Six: Competitive Landscape looks at cargo airports with similar service areas and analyzes NFIA's ability to capture a share of the market from these established airports.

Section Seven: Expansion Room examines specific properties and space in and around NFIA that can be utilized for cargo related activities as operations grow.

Section Eight: Potential Economic Benefits provides a description of how air cargo generates economic growth for regions and its ability to enhance existing economic development objectives for the Buffalo Niagara region.

Section Nine: Selected Examples examines the experiences of three airports that are developing or have successfully developed around air cargo.

Section Ten: Implementation provides recommendations on how different groups and individuals invested in the region can play a role in making this happen at NFIA.

to reach out to various area stakeholders to make the Niagara Falls International Airport a central part of a broader economic development strategy. While widespread community buy-in will be a challenge, the potential to establish NFIA as a competitive air cargo gateway and logistics center could be a key to unlocking economic opportunities that are currently not plausible for this region.

Recommendations to Stakeholders

Responding to the extensive research and analysis conducted in preparing this report, a set of recommendations has been formulated to provide the NFTA and other stakeholders with steps by which they can advance the prospects of NFIA as a competitive cargo-focused airport facility. The first set of recommendations are addressed to the Niagara Frontier Transportation Agency and other parties invested in the future of the Buffalo Niagara region. The second set lists areas in need of further study, possibly to be addressed by the upcoming 2007 regional freight study commissioned by the Greater Buffalo Niagara Regional Transportation Council (GBNRTC).

Regional Stakeholder Involvement

Engage a dialogue for bi-national coordination.

As an underutilized asset for both sides of the border, cooperation with government agencies in Ontario will be crucial to NFIA's success. The NFTA, in their efforts to facilitate the development of air cargo at NFIA, should work with local leaders and representatives to engage in a productive dialogue for bi-national coordination. Potential Canadian ministries, agencies and organizations may include: Ontario Ministry of Economic Development and Trade; Ministry of Small Business and Entrepreneurship; Ontario Chamber of Commerce; and the Ministry of Public Infrastructure and Public Renewal.

Garner support and coordination among local regional elected officials.

Elected officials such as New York State and Federal Congressional delegates, Erie and Niagara County legislators, and municipal leaders will benefit from a shared vision of what NFIA may become and the impact it can have on the region. This may require roundtable discussions, the dissemination of literature, and other appropriate measures to inform elected officials and other stakeholders about the initiative.

State and Federal delegations should be encouraged to work collaboratively to identify and secure available public funds for NFIA projects. Funds are currently needed to upgrade the fuel farm at NFIA as well as to expand the cargo aprons. These projects, expected to cost in the millions, are preconditions to the private Niagara Cargo Park organization constructing the first of its two contractually agreed upon cargo buildings. Additionally, elected officials should support other regional projects that will impact the success of NFIA including: international bridge expansions; the proposed Continental 1 trade corridor extension; and shared border management.

Increase Public Engagement

A campaign to engage the public in the planning for future development of cargo operations and passenger charters at NFIA and the economic benefits that will mean to the area needs to be undertaken. At stake are thousands of potential jobs and potentially billions of dollars in economic activity that will have little chance of being realized if a coordinated effort is not initiated. Arousing public sentiment in this fashion will protect the public interest and generate the political support necessary for enhancement of NFIA as a major economic generator for the region.

> **"A formula for success typically demonstrated at cargo airports is cooperation among various bodies including an airport authority, government representatives including (economic development organizations)"**
> **–Hamilton Airport Gateway Opportunity Study (2004)**

Integrate NFIA as a cargo facility into the regional economic development agenda.

Forging partnerships among the Niagara County Industrial Development Agency (NCIDA), the Erie County Industrial Development Agency (ECIDA) and other economic development agencies in the region, is central to achieving the maximum economic impact of air cargo operations at NFIA. Such an alliance would greatly enhance the capacity of the NFTA and the IDAs to help promote interest in NFIA and the region.

In the short run, NCIDA and ECIDA could: utilize their websites and marketing publications to disseminate information regarding current air cargo operations and development opportunities at NFIA; tailor below-market rate loans, tax exemptions/abatements and workforce training services for cargo related projects; and publicize information about the airport to existing local companies as well as those possibly interested in coming to the region.

In the long run, these agencies should work closely with various groups to establish a regional strategic plan that recognizes and leverages the tremendous trade infrastructure assets present in the region. Organizations and institutions that could play a critical role in crafting this effort include (but are not limited to): the World Trade Center of Buffalo Niagara (WTCBN); the Buffalo Niagara Partnership; UB's Regional Institute (formerly the Institute for Local Governance and Regional Growth); and the Buffalo Niagara Enterprise (BNE).

Use creative approaches to market the airport.

◆ **Revamp the NFIA Website** to convey the current potential, momentum, and excitement that this airport development project exudes. The website should provide relevant information regarding: air cargo operations and passenger charters; foreign trade zone availability; existing facilities; surrounding real estate opportunities; as well as the assets of the greater region.

◆ **Market the region's soft assets** to producers, assemblers, and distributors within the 500 mi/one day's drive radius and in the international markets from which we hope to attract cargo. Reaching out to logistics experts within this larger scope will increase the name recognition of NFIA and provide the NFTA with a greater understanding of a large portion of the United States' and Canada's business needs.

◆ **Coordinate marketing** for the airport with various regional economic development agencies, municipalities and marketing organizations. While the NFTA should continue the necessary marketing role it currently plays, creating a regional development plan with input and assistance from the NCIDA, ECIDA, WTCBN, Buffalo Niagara Partnership, BNE and other public and private economic development entities is necessary.

Cooperative Land-Use Planning Among Selected Local Governments

Coordination needs to take place in developing a local land-use strategy to support cargo operations at NFIA. The multiple municipalities directly surrounding the airport, including the Town of Niagara, the Town of Wheatfield and the City of Niagara Falls must reach consensus on important land-use decisions. Current zoning ordinances and land-use control measures will have to be identified and compared for consistency, perhaps requiring an intensive study. After this step is completed, dialogue fostered by a regional development authority consisting of these municipalities will aid in development of coordinated land use planning.

Explore creating a regional development commission to coordinate airport related efforts.

Consideration should be given to creating an entity comprised of representatives from the NFTA, municipal governments, economic development agencies and private sector parties, to coordinate land-use and economic development initiatives for the airport. This agency could be charged with: developing a coordinated land-use and development plan for the area surrounding the airport; managing growth and preventing ad hoc development from weakening economic expansion; and working with regional IDAs and economic development officials to market the facilities to cargo airlines, integrated carriers and prospective non-aeronautical industries.

Areas for Further Consideration

In coordination with the Greater Buffalo Niagara Regional Transportation Council (GBNRTC), the NFTA will need to be vigilant in monitoring a variety of key information types including: air cargo trends; population shifts; road capacities; national security initiatives; international trade agreements; and the United States "open sky agreements", as well as any other developments impacting the air cargo industry. This ongoing effort will ensure that NFIA can adapt to changing conditions and remain competitive, and also ensure that marketing efforts are targeted correctly. The critical nature and scope of this work strongly suggests that it should not be added on as an extra responsibility to existing NFTA staff, but instead should be assigned as the primary task for designated staff.

Additionally the Greater Buffalo Niagara Regional Transportation Council (GBNRTC) freight study, expected to be completed by the end of 2007, should enhance knowledge of, and interest in, this important development initiative. This study's expert consultants might be directed to address the following issues:

◆ The types of goods within the region traveling by air

◆ The origin and destination of the goods traveling by air

◆ The special needs (time sensitivity, refrigeration, etc.) of these goods

◆ The trends of belly freight within the bi-national region

◆ An assessment of producers in the 500 mile radius of NFIA who might be induced to use the airport as their "outbound" portal

◆ The likely impact that national security screening processes will have on belly freight

◆ The amount of truck traffic the airport can handle and how best to route trucks to eliminate bottlenecks.

In Summary

While NFIA is in a position to capture growth in the air cargo market, failure to act quickly and resolutely may result in another missed opportunity for the Buffalo Niagara Region. As time passes, more airports will be making the facility upgrades necessary to attract air cargo, effectively eliminating the competitive advantages that NFIA currently has. It is critical for NFTA to continue efforts toward unifying elected leaders, coordinating with organizations on both sides of the border, marketing the airport, and engaging the local population.

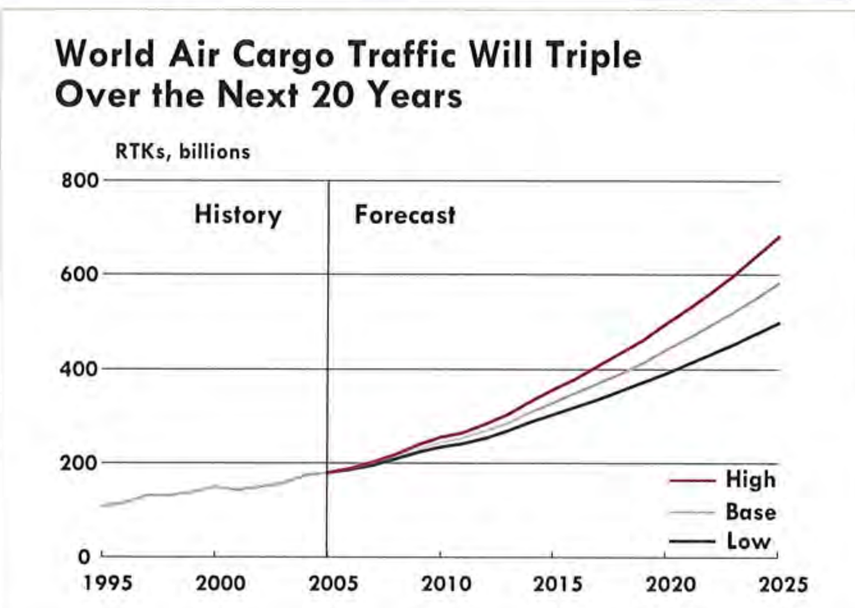
Section 1

Industry Trends

Over the last twenty years, the air cargo industry has experienced exceptional growth. This trend is expected to continue over the next two decades in relation to the growth of the global Gross Domestic Product. Recent and projected growth is credited to the emergence of: globalization; increased product volume; strong consumer demand; time-sensitive goods such as high-end consumer electronics; liberalized air service agreements; and advancements in aircraft technology.

As demonstrated by the projections conducted by leading aircraft manufacturers Airbus and Boeing, the rate of anticipated growth in the global air freight market is remarkable. Airbus forecasts air freight will grow at a 5.9 percent average annual rate over the next twenty years.[1] Boeing projects a slightly higher rate of growth at 6.1 percent over the same period. Additionally, Boeing estimates that worldwide air cargo traffic will more than triple in volume over the next twenty years and the size of the fleet will nearly double.[2]

Figure 1.1: Projected Growth in Global Air Cargo Traffic



Source: Boeing (2006)

Domestic Air Cargo Growth

According to the US Department of Transportation (US DOT), air freight is the fastest growing mode of cargo transport within the highly integrated transportation network of the United States. In 2002, domestic air freight shipments were valued at $770 billion, nearly double the $395 billion it was a decade prior. Because almost all cargo shipped by air "begin and end their journey by truck," this growth has exerted a direct, positive effect on the demand for trucking services in the US.[3]

In 2005, domestic air freight recorded a record revenue gain of $31.3 billion, a 4.7 percent increase from the previous year. Integrated express companies as a group accounted for 90 percent of the industry's total revenue; conventional services accounted for slightly higher than 8 percent; and domestic mail accounted for slightly less than 2 percent of the industry's total revenue.[4] Conventional services are less popular because they deal with more than one carrier and there is no delivery time guarantee.

Approximately 60 percent of the domestic air cargo market is engaged by express delivery providers. Combination carriers, serving both passengers and freight, now use more flight specific or time definite services in an effort to increase traffic and yield.[5] However, the exact impact this will have on their market share is unclear.

In addition to the increased capacity of the domestic cargo market, the structure of the domestic cargo industry in relation to service providers has changed dramatically over the past fifteen years. Only eight of the original top fifteen carriers remain, while others merged or went out of business. Figure 1.2 on the following page shows the rankings of the top twenty-five domestic air cargo carriers in 2005.

These major changes are due mainly to consolidation, particularly among express

Figure 1.2: 2005 Air Freight Traffic for 25 Largest US Air Cargo Carriers

Rank	Carrier	Traffic*
1.	FedEx Express	10,028
2.	Atlas/Polar	5,890
3.	UPS	5,776
4.	Northwest	2,257
5.	American	2,216
6.	United	2,020
7.	Kalitta	1,562
8.	Delta	1,341
9.	Continental	941
10.	Evergreen	829
11.	Gemini	826
12.	World	680
13.	ABX	618
14.	Tradewinds	489
15.	US Airways	344
16.	Omni	344
17.	ASTAR	306
18.	Air Transport Int'l	207
19.	Southwest	204
20.	Express.net	187
21.	Florida West	144
22.	Kitty Hawk	118
23.	Capital Cargo	103
24.	Hawaiian	85
25.	Amerijet	79

Source: Air Cargo World Online (2006)
*Measured in millions of cargo ton revenue

carriers. Beginning in 2003 a series of mergers were announced: DHL acquired Airborne Express (2003); Menlo Worldwide Forwarding (formerly Emery) was absorbed by UPS (2004); BAX Global was purchased by Deutsche Bahn/Schenker (2005).[6]

International Air Cargo Growth

The global air cargo industry recently experienced a period of change marked by substantial growth and consolidation among market participants. Based on the International standard measurement of freight-ton kilometers (FTKs), approximately 75 percent of the world's total (domestic and international) FTKs of air freight are performed by combination carriers. Carriers that deal *solely* with freight, however, still retain a sizable share of the market and are gaining ground on the combination carriers.

Express services comprise most of the United States' domestic market, but not the international market. For the last six years, "express" represented approximately 10.6 percent of the total international air cargo weight. While this segment of the market will experience some growth in the near future, it is not likely to dominate. Conservative estimates of future growth indicate the express market share will range between 19 percent to 25 percent in 2020.[7]

The United States holds the largest percentage share of the world air freight market (in imports and exports), but this dominance will likely decline due to the rise in Asian exports and the rapid expansion of air freight services to that market.[8] China and India are rapidly expanding their freight networks to support their burgeoning economies.

Emergence of Air Cargo Freighters

In order to maximize profits in a highly competitive market, major airlines are making a transition to the use of very large aircraft. Large, wide-body aircraft can provide more than just the volumetric payload necessary for international cargo. They also stimulate traffic by lowering the cost-per-ton threshold to a level below which smaller aircraft cannot remain competitive. These aircraft have enough cargo space to accommodate an amount of freight weight that can more cover expenses.

These larger aircraft also have the ability to fly longer distances and bypass what used to be necessary technical stops for an air freighter. Saving time allows quicker delivery of time-sensitive cargo to a much wider market base, thereby increasing net revenues. Less frequent technical stops also decrease fuel consumption.

Increasing fuel prices accelerate the retirement of older and less fuel efficient freighters while accentuating the value of newer and larger aircraft because of their operating efficiency.[9] Fuel represents approximately 40 percent of the total operating costs for most carriers. The whole industry is struggling with high fuel prices, but for now there are no indications that the high price of oil is stifling the growth of this sector globally. Despite these higher fuel prices, interest in freighter aircraft - particularly wide-body - is at an all-time high, especially among Asian and European airlines.[10] Air freighters, grouped into categories according to their payload capacity, are presented in Figure 1.3, noting the most popular aircraft by category currently in service.

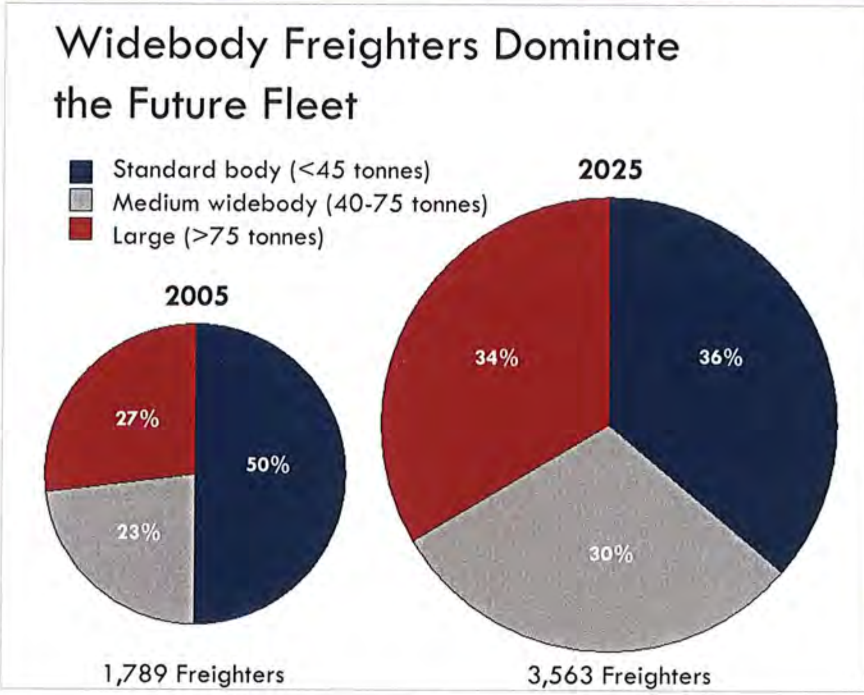
A handful of freight airlines now also offer limited charter passenger operations. This was

Figure 1.3: Freighter Aircraft by Size

Standard Body (Less than 45 tonnes)	Medium Wide-Body, Regional Jets (40-70 tonnes)	Large Wide-body, Long-range Jets (70 tonnes or more)
BAe-146	767	DC-10-30/40
DC-9	A310	747*
737	A330	A340
727	A300	MD-11
707	L-1011	777
DC-8	DC 10-10	A380
757-200	A350	
MD-80/90		
Tu-204		

Source: Boeing (2006)
** Signifies payload tonnage in excess of 120*

Figure 1.4: Projected Growth of Widebody Freighters



Source: Boeing (2006)
Boeing's projections for the make-up of freighters point to a growing role of large body freighters. While standard body freighters comprised half of the entire global freighter fleet, this is expected to decrease to 36% by 2025

Figure 1.5: Image of Boeing 747 Aircraft

Source: Associated Press, AP (1993)
Boeing 747-400 cargo plane being loaded at Seattle-Tacoma International Airport

done to diversify operations and increase revenues by capturing a piece of a relatively small market.

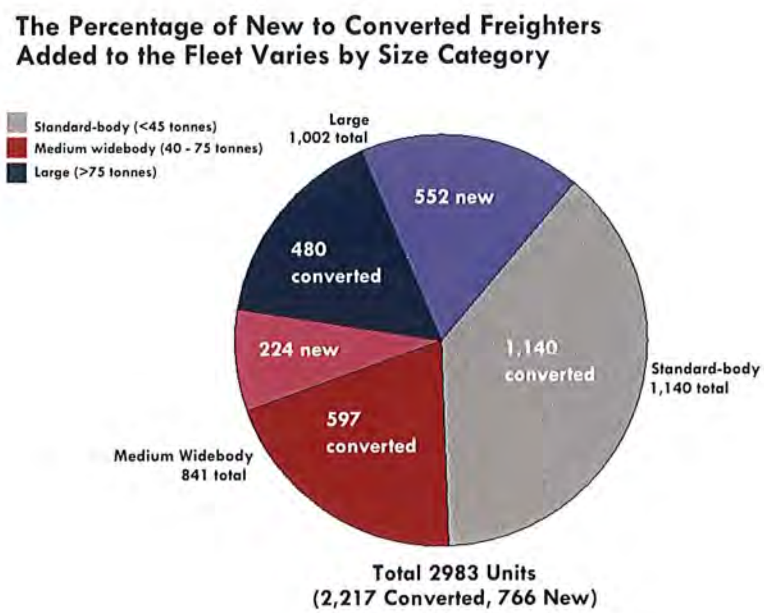
A decade ago, the McDonnell Douglas Corporation and Boeing were the primary aircraft manufacturing companies in the United States but subsequently merged in 1997. Today, Boeing and Airbus, produce the majority of aircraft in service. Both companies forecast strong and consistent growth in the air freight industry with an unmet need for wide-body air freighters. There are 869 wide-body freighters currently in use and another 265 on order. Boeing predicts the global freighter fleet will grow to 3,563 aircraft by 2025, with a continuing shift toward larger wide-body aircraft freighters.[11]

The Boeing 747 freighter family is the standard for air cargo. More than half of the world's freighter capacity is currently serviced by about 110 Boeing 747s and there are more than 300 variations of the model. The Boeing 747 is capable of carrying 124 tons (113,000kg) of cargo up to 4,450 nautical miles (8,240 km).[12] The 747 freighter is key to the development of air cargo, an industry generating more than $45 billion in revenue annually.[13]

The 747 freighter's layout optimizes its cargo space. The maximum container size that can fit inside the aircraft is perfect for accommodating the industry-standard 10 foot high pallets. The unique combination of a large side-cargo door and a nose door provides maximum flexibility and efficiency for the ease and speed of cargo movement. This can yield $1 million or more per plane each year in net revenue for a carrier. The Boeing 747 also offers the lowest ton-mile cost in the industry.[14]

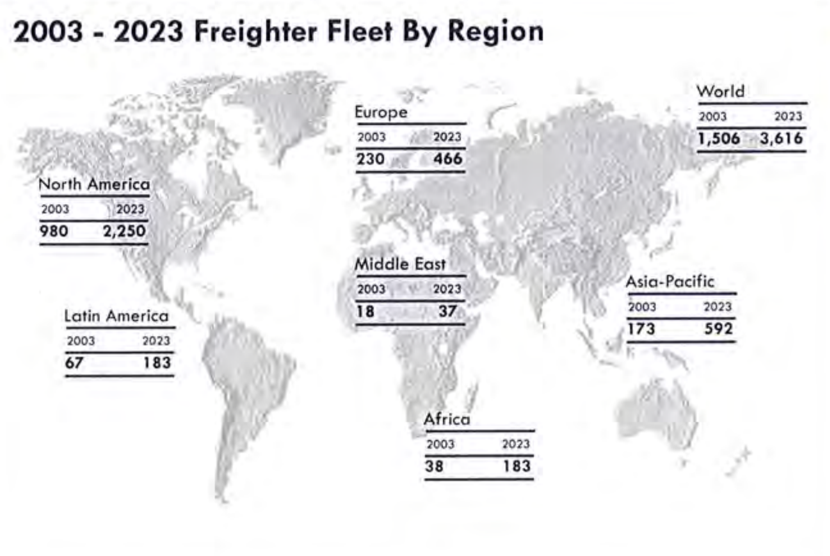
China Cargo Airlines, a subsidiary of China Eastern Airlines, exemplifies this growing trend, using large wide-body freighters for international cargo transport. On September 13, 2006, Boeing delivered a 747-400 ERF (Extended Range Freighter) to their Shanghai based fleet. This aircraft has the lowest ton-to-mile cost in the air cargo business, making it the most efficient. The freighter would help the airline accommodate

Figure 1.6: 2023 Projected New and Converted Freighters Added to Global Freighter Fleet



Sources: *Airbus (2003)*

Figure 1.7: 2002-2003 Freighter Fleet By Region of the World



Source: *Airbus (2003)*

Airbus projects that North America will see the greatest growth in its freighter fleet by 2023, rising from the 2003 count of 980 to 2,250 in 2003.

strong international volume growth and allow China Cargo to further increase capacity on their most important international routes. Air China Cargo received the first of its two Boeing 747-400 freighters early in 2006. The company purchased this large freighter aircraft with the intent of meeting the needs of China's rapidly growing economy and booming air cargo market. On October 25, 2006, China Airlines purchased its twentieth 747-400 Freighter from Boeing. This threshold officially made the airline the world's leader with the largest 747-400 Freighter fleet.[15] This highlights the commitment of Asian airlines to expand their fleets with larger aircraft geared toward international cargo routes.

Airbus is projecting global air passenger traffic to increase at a rate of 5.3 percent per year and the passenger fleet of aircraft in service to double: from 10,838 at the end of 2003 to 21,759 by 2023. Of the 10,838 aircraft in service as of 2003, Airbus projects that 9,200 will be replaced by 2023, with 2,412 of them converted to freighters. Of the 21,759 commercial aircraft projected to be in operation by 2023, 1,262 will be very large, in order to serve international routes.[16] These very large aircraft will only be able to land at airports that have sufficient infrastructure to support them (i.e. a runway nearly 10,000 feet in length). Many established airports, such as the Buffalo Niagara International Airport, do not have the sufficient infrastructure for these planes. There is no such constraint at the Niagara Falls International Airport (NFIA).

In a continued commitment to providing larger aircraft with greater payload capacity, Airbus developed a new generation of air freighter called the A380. The A380 is an indication that that air freighters will continue to evolve into ever larger aircraft. The Airbus A380 has a capacity of 150 ton payload over a distance of 5,600 nautical miles. With this superior range, the A380 can make fewer stops and enhance its productivity. In a 5,000 nautical mile sector, the operating cost of the A380 is 21 percent lower than the largest competing freighter. However, an impediment of this aircraft, being the largest cargo freighter, it that it is too large for some of the more established gateway airports, because they do not have enough room for these aircraft to maneuver around the airport.

This super-jumbo jet freighter will have three separate cargo decks, carrying a payload fifty percent greater than its closest rival and will fly more than 1,400 nautical miles further. Since the massive A380 is built out of weight saving composite materials, and has the latest in aerospace technology, it also uses 18 percent less fuel than its nearest rival. The A380 is in its final testing and approval stages.[17] There have been multiple orders placed for the aircraft and it will be officially introduced in 2008 or 2009.[18]

Passenger Freight vs. Dedicated Freight

Belly freight, or the cargo carried in the storage area beneath a passenger aircraft, has traditionally been the dominant form of air freight transport. Because belly freight cargo represents additional revenues to those raised by passenger tickets, this has been the most cost-effective method of moving goods by air. However, the emergence of low-cost airlines, heightened air security measures and "just-in-time" delivery models have transformed the air cargo landscape and made belly freight transport less popular. Dedicated, or all-cargo, air freighters increasingly demonstrate a formidable advantage over commercial passenger jets transporting belly freight, largely due to customer demand for superior services. Air freighter companies include reliability guarantees, time-sensitive delivery, en route tracking, and ancillary services, making the freighter option enticing to customers, despite the competitive pricing of belly freight cargo.[19]

Figure 1.8: Image of Airbus A-380

Source: Associated Press, AP (2005)

Exemplary of the new generation of jumbo-sized freighter, the Airbus A-380 dwarfs medium and standard body freighters that currently lead the air cargo market.

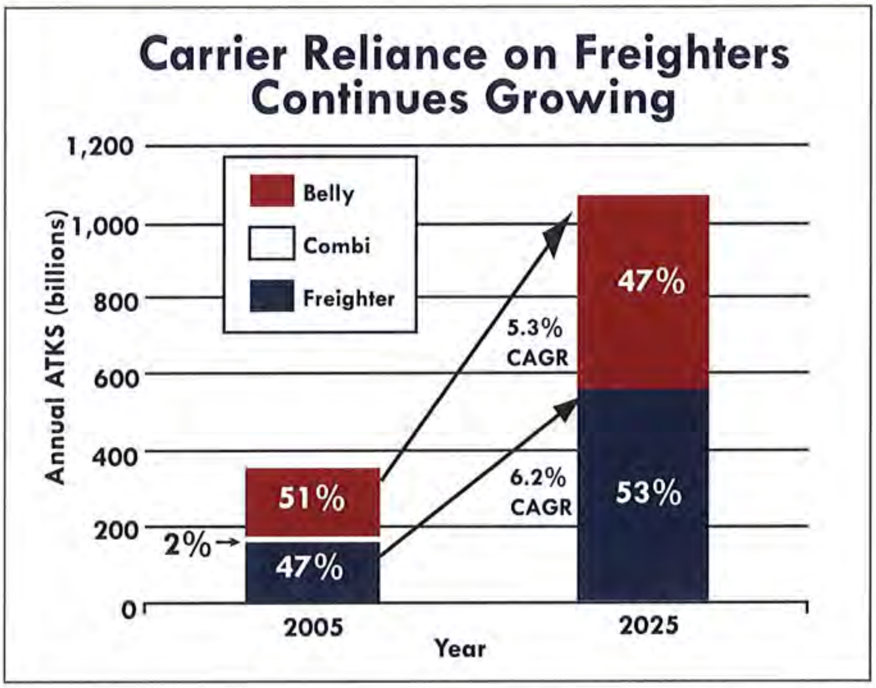
Freighters represent only about 10 percent of the world's total commercial jet fleet. Dedicated cargo freighters will, however, provide more than half the world's total air cargo capacity, a slight increase from today's percentages, because capacity for belly freight will not grow as quickly as dedicated freighter capacity. Figure 1.8 exemplifies this shifting trend toward dedicated air freighters as opposed to the belly cargo of commercial freighters.[20]

Figure 1.9 shows all the major airlines - earning $1 billion or more in annual revenue- and compares their scheduled cargo traffic in 2000 to their traffic scheduled in 2005. Total cargo for this group of carriers was 12.09 billion ton-miles in 2005, 3.4 percent above the 2000 total. The cargo traffic for combination carriers was down by 37 percent, due to a 15.5 percent decline in freight and a staggering drop of 65.6 percent for mail.[21] Commercial passenger airliners are carrying a declining portion of freight largely because of increasing restriction on cargo security requirements for belly freight, as well as more strict aircraft weight requirements.

Liberalization of International Air Service Agreements

One of the most important factors contributing to the growth of domestic air freight is United States' foreign policy. The current

Figure 1.9: Growth of Freighters in Air Cargo



Source: Boeing (2006)

Boeing's projections indicate that the role of belly cargo will continue to decrease over the next twenty years. The degree projected by Boeing is even more conservative than Airbus, who projects an even larger decrease in belly cargo.

Figure 1.10: US Domestic Cargo Traffic for Major Carriers: 2000 v. 2005

Combination Carriers	2000	2005	Change (%)
Alaska	63,662	67,822	6.6%
American West	80,694	82,740	2.5%
American	698,131	490,858	-29.7%
American Eagle	1,052	149	-85.7%
American Tran Air	0	21,603	n/a
Continental	297,902	224,462	-24.7%
Delta	746,554	472,277	-36.7%
Express Jet (CO Express)	549	2,465	349%
Northwest	759,182	613,199	-19.2%
Southwest	144,135	203,933	41.5%
Trans World	165,356	0	-100%
United	1,036,884	443,636	-57.2%
US Airways	243,287	44,360	-81.8%
Sub Total	4,237,381	2,667,524	-37%

Source: Air Cargo Management Group (2005)

Figures Expressed in Ton Miles

strategy of the United States is to deregulate both domestic and international air traffic policies. In 1978, Congress passed the Airline Deregulation Act, enabling airlines to "reinvent themselves in response to evolving consumer demands and competitive challenges [as well as the] flexibility to enter and exit markets at management's discretion." The Airline Deregulation Act established the basic principals of airline deregulation and, in the last quarter century, these principals have been strengthened and broadened to apply to international air transportation policy.[22]

Until the mid 1990s, most, if not all, of the international flight allocations were bilateral agreements developed between the United States Department of State and its counterpart in certain foreign countries. These agreements were typically strict in their terms and application. The current flight agreement between the United States and Great Britain, for example, allows only a limited number of flights between the countries each week. The agreement specifies not only which airlines are allowed to service the flight paths, but also which major domestic airports can be accessed, and how prices for tickets would be set.[23] If this arrangement was still the only way to allocate flight agreements, the Niagara Falls International Airport would face an uphill battle. As the ideas of deregulation were brought to the level of the global economy, however, a new form of air transportation agreements is now being widely used, the Open Skies agreement.

Open Skies agreements are relatively new, and are far more liberal than the restrictive bilateral agreements that were formerly the standard. The major premise of an Open Skies agreement is that the market should be allowed to function as freely as possible. To this end, the dramatically liberalized agreements are highlighted by limiting the authority that governmental regulatory agencies have. The proposed - and written but not yet signed - Open Skies Agreement between the United States and the European Union would allow "every EU and US airline to fly between every city in the EU and every city in the United States to operate without restrictions on routes or capacity, including unlimited rights to fly beyond the EU and US to points in third countries; [and] to set fares freely in accordance with market demand."[24]

The United States currently has similar Open Skies agreements with over one hundred other countries. Important to the NFIA, most of these open skies agreements include "all-cargo seventh freedom rights." The all-cargo seventh freedom right allows any airline covered by the applicable Open Skies agreement to perform international cargo operations between third-party countries, with no connection to the airline's homeland. Under the older and restrictive bilateral regimes, airlines were generally forced to operate only between the countries covered by the agreement.

While Open Skies agreements are now the model on which countries contract for air service rights, some of the largest countries - and many with potentially emerging markets - are not currently engaged in Open Skies agreements. The People's Republic of China, for example, recently signed an Air Service Agreement with the United States that is not as liberal as the Open Skies model. The agreement purports to quadruple the number of weekly flights between China and the United States by 2010, and the US Department of Transportation is currently accepting applications from the major American airlines for these route allocations.[25] This agreement allows only established airlines an opportunity to bid for routes and the number of weekly flights between the countries will be controlled and governed by the specific agreement. The agreement does, however, drastically expand current operations between the two countries and allows routes to operate from any point or points within the United States to any point or points within China. The agreement is set to be fully implemented by 2010.

The United States Department of State considers fostering and encouraging trade and inter-dependency between the United States and the rest of the world, to be a major priority. The Open Skies model of Air Service Agreements is the best example of this liberalized approach. By withdrawing the restrictive regulatory processes and decision making processes, Open Skies agreements promise to allow an unhampered market to determine the future of air transportation of goods and people. The Niagara Falls International Airport should have an opportunity to leverage its assets in the open market to develop its vast potential.

Opportunity at NFIA

Air cargo, as an avenue within the cargo transportation industry, is experiencing increasing and continued growth fueled by an increasing interdependence among trading nations, the growth of technology and other time-sensitive products, and the liberalization of Open Skies agreements. Additionally, major cargo operators are finding dedicated freight carriers to be a more cost-effective solution to the increasing cost of oil and congestion of major airports. This presents an opportunity for secondary airports such as NFIA to capture a share of this growing market.

With the globalization of trade, and the need for more efficient supply chains, shippers are beginning to demand better services from their carriers. Many carriers are focused on strengthening their logistical services by offering instant package tracking and expanding their own network of intermodal services. These improved networks provide rapid and reliable service.

Endnotes

1. ("Airbus")
2. ("Boeing #1").
3. (US Department of Transportation Bureau of Transportation Statistics "Air Freight"
4. Air Cargo Management Group
5. Air Cargo Management Group
6. Air Cargo Management Group
7. Air Cargo Management Group
8. ("Airbus")
9. Air Cargo World
10. Air Cargo Management Group
11. Air Cargo Management Group
12. ("Boeing #1")
13. ("Boeing #2")
14. ("Boeing #2")
15. ("Boeing #2")
16. ("Airbus")
17. ("A380")
18. Air Cargo Management Group
19. Air Cargo World
20. Air Cargo World
21. Air Cargo Management Group
22. ("Shane #2")
23. Button
24. ("Shane #1")
25. Zwaniecki

Section 2

Criteria for Success

Given the tremendous boost that air cargo can have on a locale's economy, various regions across the US are attempting to advance air cargo in their areas through conversion of underutilized facilities or in some cases, constructing new airports targeted at serving air cargo. It must be noted, however, that the success of cargo-focused airports such as Rickenbacker International in Columbus, Ohio and Fort Worth Alliance in Texas has been attributed to possessing and leveraging the necessary assets that respond to the changing global air cargo market. These assets are not universal and as more regions begin to formulate economic development strategies around air cargo, market experts are cautioning that it takes more than an adequate runway and physical space to become successful in the air freight industry.

As demonstrated by the experiences of North Carolina Global Transpark (NCGTP) in Kinston, North Carolina, localities cannot expect to succeed with a "build it and they will come" approach without knowing if the airport and its location have the necessary assets to succeed. In the early 1990s when the project was proposed, proponents believed NCGTP would become one of the world's leading commercial hubs for air cargo. Yet, despite an infusion of hundreds of millions of public dollars and an informed master plan, NCGTP failed to meet its goals of becoming a major air cargo player and economic engine for its region. Lacking a strategic location and poor access to major highways as well as a lack of nearby industries for the airport to serve, NCGTP today is considered by their local newspaper as "the largest government waste and failure in North Carolina state history, a failed cargo-airport project that has brought false hopes but little impact to Kinston and Eastern North Carolina."[1]

Figure 2.1: Aerial View of North Carolina Global Transpark in Kinston, North Carolina

Source: Lenoir County Economic Development Dept. Website
As depicted above, the North Carolina Global Transpark's isolated location on the rural periphery has inhibited its ability to attract air cargo activity and grow as a cargo-focused facility

"Economic development and airport management officials need to understand that air cargo has matured in the (U.S.) market, they need to have a better understanding of how the air cargo industry works and how their airport fits into the big picture."
-Mike Maynard, Senior Airport Planner, Wilbur Smith Associates[i]

Economic development officials in Louisiana are being warned by air cargo experts not to fall into the same trap as Kinston, North Carolina. Strongly endorsed by the State of Louisiana, plans are underway for a $4.4 billion cargo-focused airport in Donaldsville, Louisiana, a small bayou community between New Orleans and Baton Rouge. Much to the dismay of state and local officials in Louisiana, a consulting report notes that as only 1.2 percent of the US population lives within 100 miles of the proposed facility, "the site offers no distinct location advantages and is not likely to function as an international or a national hub."[2]

The NFTA and proponents of establishing NFIA as a competitive cargo-focused facility must carefully consider if the Niagara County facility is situated for success. Does the airport have the potential to be another Rickenbacker, or are the prospects for NFIA similar to the proposed Louisiana project? In response to this question, an exhaustive literature review was conducted regarding the competitiveness of cargo-focused airports in attracting dedicated air freight carriers. Drawing on a 2006 study on location-factors of non-integrated cargo decisions funded by The International Air Cargo Association (TIACA), an online presentation produced by Matthew Priesler of the Wilbur Smith Associates consulting firm, and analysis of the experiences of successful cargo-focused airports in the US, a series of factors were identified as critical to advancing air cargo.[3] The results of this research indicate that while there is no prescribed formula for success in facilitating dedicated cargo, certain criteria exist that can inform the degree of success that an airport may have in becoming a competitive air cargo facility.

Referred to as the "Criteria for Success," seventeen such factors have been identified as being advantageous for facilitating air cargo. These have been grouped into four categories commensurate with benchmarks relating to each degree of success. Specifically, the groups are divided to differentiate between assets that are absolute prerequisites (*Mandatory Assets*), essential for entry into the market (*Initial Launch of Regional Development Effort)*, highly desirable to capturing economies of scale (*Creating a Critical Mass)*, and maintaining market position (*Maintaining Competitiveness*).

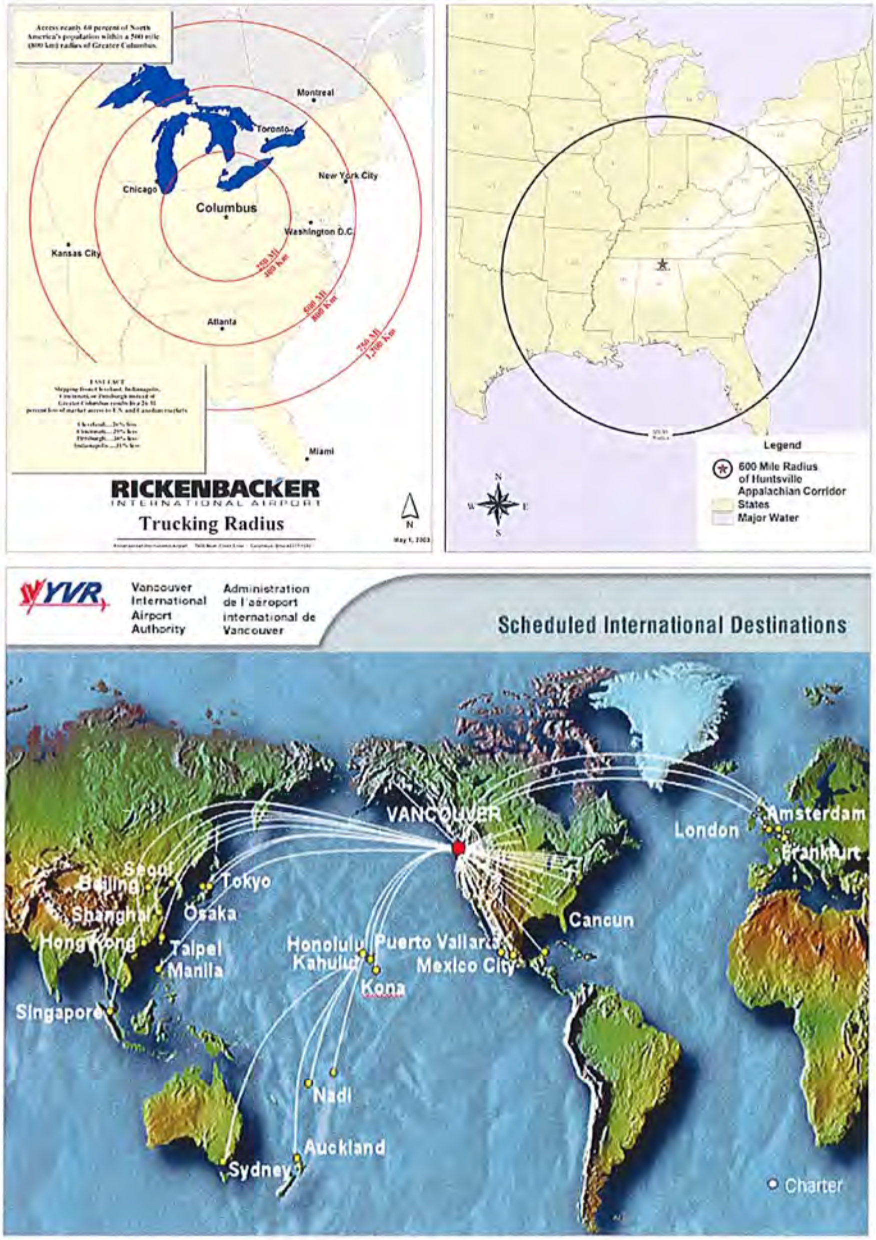
Mandatory Assets

The first group, *Mandatory Assets*, identifies the pre-requisite assets needed to consider if the airport is suitable to serve air cargo. While possession of these attributes does not guarantee that air cargo will flourish at a given airport, absence of these basic components will most likely preclude air cargo from traveling through a facility. These assets include strategic location, direct access to highways, capacity to capture a share of the market and basic sufficiency of facilities.

Figure 2.2: Airport Criteria for Success for Facilitating Air Cargo

Mandatory Assets	Initial Launch	Creating Critical Mass	Maintaining Competitiveness
Strategic Location	Strategy for targeting type of cargo to be served	Positive reputation for cargo through established experience or consistent marketing efforts	Maximize existing resources in response to changing trends in air cargo market
Direct access to highways serving primary areas of demand	Competitive Cost Structure	Economic development & land-use planning for surrounding areas	Continue to work with area stakeholders in improving competitiveness of airport
Capacity to capture a share of the market	Strong concentration of freight forwarders	An Anchor Tenant	
Basic sufficiency of facilities	Existing cargo activity		
	Capable and reliable workforce		
	24 hour services and liberal noise restrictions		
	Free Trade Zone and Efficient Customs Services		
	Sufficient capacity for expansion of services		

Figure 2.3: Examples of Airports Marketing *Location*



Source: Rickenbacker International Airport website
Huntsville International Airport website
Vancouver International Airport website

Successful air cargo airports like Rickenbacker International in Columbus, Ohio (top left), Huntsville International in Huntsville, Alabama (top right) and Vancouver International in British Columbia, Canada (directly above) all emphasize their access to populations and markets in their marketing efforts. While this demonstrates that multiple airports possess "Strategic Location," the commitment to advertising their respective geographic strengths illustrates the importance location plays in attracting cargo to a given airport.

Strategic Location

As in all modes of the cargo industry, location is the most important factor for facilitating air cargo. Industry experts advocate that facility improvements can be made to accommodate cargo tenants, but location is a quality that cannot be replicated. Ancillary components can add to an airport's competitiveness but cannot supplement the advantage provided by prime geographic location. It should come as no surprise that successful cargo facilities are strategically located and afford substantial marketing efforts to promote their geography, while the failure of cargo airports is often related to their lack of a cogent locational advantage, *see Figure 2.3.*

While the value of a specific location can vary depending on the type of cargo being transported and the targeted market destination, the crudest, yet informative, locational indicator is the total population that can be reached by truck within a 600 mile drive (a day's travel). Because express and integrated cargo is even more time sensitive, the maximum driving is much smaller and approximated at 100 miles.[4]

Additional geographic factors that can benefit a region's ability to attract air cargo are access to markets projected to grow, proximity to industrial clusters that depend on air cargo (i.e., electronics, pharmaceuticals, automobile parts and the fashion industry), and origin-destination flight lengths.

Direct access to highways serving primary areas of demand

Air cargo is not an isolated sector of the greater freight industry, but rather is a significant transportation mode in the fluid movement of goods globally. Almost exclusively, goods that arrive via air are subsequently transported by truck to their interim or final destination. If access to highways is limited or congested, the fluidity of the movement of goods is compromised. The importance of access to highways is underscored by the fact that speed of access between the airport and the destination market is the most important advantage and is valued higher than the actual distance between the airport and ground destinations.

Capacity to capture a share of the market

Strongly related to strategic location, an airport seeking to advance air cargo operations must be situated to meet unmet demand, whether it be through diverting cargo from overburdened airports in the region, meeting growth demands of a certain area or preparing for growth anticipated in the future.

Basic Sufficiency of Facilities

While not nearly as important as the geographic components mentioned above, an airport seeking to facilitate cargo must meet the most basic facility requirements for growing cargo operations. These include a sufficient runway to accommodate air carriers of various sizes, spacious ramps, adequate airport parking, and space to construct permanent or temporary storage/handling facilities.

Initial Launch of Regional Development Effort

This second threshold includes characteristics needed to attract initial cargo tenants and begin freight handling operations at a modest level. Although it is not necessary for an airport to have each of these, the degree of success can be attributed to possessing and leveraging as many of these assets as possible.

Strategy for targeting type of cargo to be served

As in any consumer-driven industry, airports seeking to bolster air cargo must have evidence that the right kind of customers will demand their services. In the most basic sense, this involves knowledge of where cargo is being transported to/from (international or domestic), the types of aircrafts carrying the cargo (combined passenger carriers with cargo in the underbelly, integrated carriers such as FedEx or UPS, or dedicated freight carriers), and the targeted geographic area that the airport will serve (100 miles for integrated and express carriers, or 500-600 miles for international freight).

More specifically, airport planners and operators should know what industries will find the facility beneficial for serving their product distribution needs. Defining the customer base for air cargo is not always an easy proposition, as airports are challenged in their ability to assess the flow of cargo traffic. For some areas, particularly those with high concentrations of manufacturers and industrial parks that rely on the economies of speed offered by air freight, it is much clearer who will demand the services of an air cargo facility. However, regions lacking such industries still have the potential to facilitate cargo activity by having a strong grasp of what the demand is within the immediate region, as well as demand that may be captured from airports serving the same service area.

Competitive cost structure

As expected, air freight carriers, shippers and freight forwarders are extremely interested in conducting business at an airport that presents savings on their transportation costs. While landing fees are a component of this cost, they represent a relatively small proportion of the overall expenditures of an air freight shipment. Airports seeking to tout their cost advantage should market not only savings presented through landing fees, but also cheaper parking costs, handling fees, surcharges, air miles traveled and fuel costs. If an airport can successfully minimize the overall cost of doing business at their facility and market this savings strategically, it will enhance its ability to draw air cargo activity away from other airports and increase their own activity.

Strong concentration of freight forwarders in close proximity to the airport (preferably on the premises)

Third-party logistics operators and freight forwarders play an integral role in the air cargo business. Drawing on their expertise in various modes of cargo movement, freight forwarders are retained by the producers of goods to map out the fastest and most cost-effective routes for moving goods from the site of production to their terminal destination. From an airport's perspective, forming relationships with freight forwarders can translate into substantial growth in cargo at their facilities. From the perspective of the air cargo carriers and freight operators, a concentration of freight forwarders is a key indicator that a great deal of cargo flows through the region in which the airport is situated. It should come as no surprise that a 2006 study found that out of a sample of 39 air freight operators, 33% defined a concentration of freight forwarders at an airport as "extremely important," while an additional 40% felt they were "important." This same study found that 30 of 40 cargo airports sampled found the presence of freight forwarders to be "extremely important" and two-thirds of the sample airports had implemented actions to lure freight forwarders to their facilities.[5]

"A truly freighter-friendly airport offers around-the-clock operation, spacious ramps and aircraft parking, effortless transfer between the aircraft parking lot and warehouse, easy access to customers' logistics centers and geographical location easily accessible to its prime market."[ii]
- S.J. Yang, Vice President, Korea Air

Existing Cargo Activity

In the most basic sense, the presence of existing cargo activity demonstrates to air cargo carriers and freight forwarders that a specific airport may also suit their needs. For airports starting from scratch, this poses a significant challenge as securing the first tenant will likely be difficult. However, once an airport establishes even a minimal amount of cargo activity, other tenants will be more likely to follow suit.

Capable and reliable workforce to provide air cargo related services

As in any economic development strategy, a regional workforce capable of serving the economic activity is a necessary component for air cargo. Having a pool of semi-skilled and skilled workers to perform cargo handling, aircraft maintenance, light manufacturing, freight logistics and ground transport is an advantage for a particular region.

24 hour services and liberal noise restrictions

Ancillary benefits of an airport such as around-the-clock servicing and a lack of noise restrictions can go a long way in adding to an airport's competitive advantage. This proves true especially for international cargo as a range of airports exist in the same service area. Twenty-four hour operations at an airport can be advantageous as many established airports do not afford such a benefit, and international air cargo and express freight often arrives and departs outside of normal business hours due to time zone differences. Restrictions on noise are another constraint that are increasingly steering cargo away from large airports toward smaller, more cargo-focused airports.

Foreign Trade Zone and Efficient Customs Services

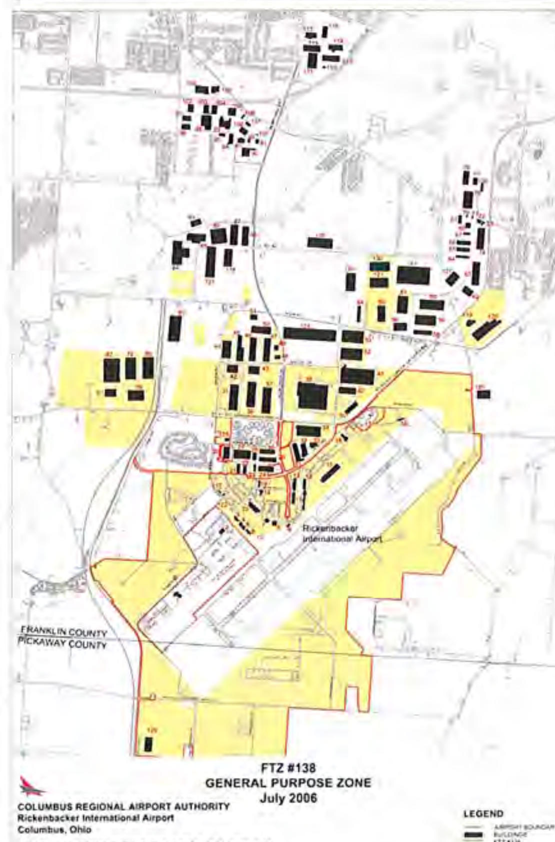
On account of the strong share of cargo transported from international origins, Foreign Trade Zones (FTZs) and Customs operations are crucial to the air cargo business. The presence of Customs operators at an airport are compulsory for international cargo and without this needed feature, international cargo is not an option for an airport. Possessing a reputation for quick customs processing has been identified by cargo experts, airport operators and freight forwarders as a competitive advantage for capturing a share of cargo in a market region.

Foreign Trade Zones, while not a mandatory ingredient, are extremely advantageous to airports and cargo tenants alike. As sites within the country legally considered external to Customs territories, goods are allowed to enter these sites duty-free and without formal customs processing. FTZs can be located on an airport site and even extend to areas surrounding its boundaries. The cost savings provided by FTZs for transporters and manufacturers sending and receiving cargo abroad can be significant. As such, many airports interested in enhancing their share of the cargo market frequently boast the high benefits of their FTZs, sometimes dedicating entire websites to them.

Sufficient capacity for expansion of services

Ample expansion space is often viewed as an advantage that smaller airports hold over established international gateways. Successfully leveraging this asset is important to advancing the competitiveness of secondary airports and can be a key ingredient toward substantial growth in servicing air cargo. As Terry Matthews, senior vice president of sales for trucking powerhouse JB Hunt Transport states, "to be a [major air cargo hub] takes time, it can take a decade. A lot

Figure 2.4: Rickenbacker International Airport Foreign Trade Zone



Source: Rickenbacker International website

Rickenbacker International has effectively leveraged its FTZ by expanding it to encompass nearly 5,000 acres around the airport facilities. Businesses located at Rickenbacker's FTZ # 138 have an impact of $951 million on the regional economy and support approximately 10,500 jobs.

of it starts with industrial parks where people can put in megawarehouses."[6] Airports that lack expansion space or the ability to assemble vacant/underutilized land to process and handle cargo are likely to be limited in their ability to attract air cargo to their facilities.

Creating a Critical Mass

The third threshold, *Creating a Critical Mass*, involves the components needed to make the airport a competitive facility that significantly contributes to the global air cargo market as well as the regional economy. Components of *Initial Launch* and *Creating a Critical Mass* go hand-in-hand as there are no deliberate boundaries for these two thresholds. The primary difference is that the third benchmark can be seen as a direct result of effectively leveraging airport assets in preliminary stages of formulating cargo at an airport to achieve a level of competitiveness and recognition within the global air cargo market.

Positive reputation for cargo through established experience or consistent marketing efforts

Based on the 2006 report *An International Study of the Airport Choice Factors for Integrated Cargo*,[7] an airport's reputation established through various types of marketing can be very valuable in attracting air carriers and freight forwarders. In garnering a positive reputation in the air cargo industry, airports are able to demonstrate to potential customers their commitment to cargo. Although marketing and face-to-face communication with industry-leading freight forwarders and carriers can enhance an airport's reputation, the most convincing way to gain status in the industry is through establishing a record of superior service. While freight forwarders generally have a strong idea of what airports are most suitable for their clients, they are constantly assessing the market and seeking ways to reduce costs for their clients. If an airport operator can develop a strong reputation of dedication to working with freight forwarders and carriers to optimize the effectiveness of their supply chains, they can leverage that strength to the point where air carriers and attendant industries are drawn to that airport and its surrounding region.

In building this reputation, airports must take a proactive and innovative approach to maximizing their strengths, minimizing weaknesses and comprehensively providing superior services. This can include, but is not limited to: identifying customers within their local market that could benefit from the advantages afforded by air cargo; assembling as many internal/external incentives as possible; forming meaningful relationships with private freight transportation and logistics stakeholders; and marketing their facilities to the world, as well as their own region.

Economic development & land-use planning for surrounding areas

The success of a cargo airport and the commensurate economic benefits to its host region is often dependent on factors that lie outside of the airport operator's control. Specifically, regional economic development and strategic planning initiatives that cater to the strengths and needs of the airport are often required for a cargo-focused airport to be competitive. Just as the greatest benefits that air cargo can have on a region is the catalytic spin-off impacts on regional economic clusters, the economic development strategies that take proper advantage of the competitive edge provided by the airport are necessary for both the future success of both the airport and local industries. While airport operators often lack jurisdictional control over regional planning and land-uses outside of their boundaries, successful airports like Rickenbacker recognize the importance of forming meaningful partnerships with regional development officials, real estate firms, municipalities and businesses to achieve mutually beneficial goals for the airport and regional economy. Without a concerted planning effort to maximize assets and attend to weaknesses, the full potential of an airport cannot realistically be met.

A case in point is the real estate surrounding an airport. Although an airport authority may have minimal ownership interests in surrounding land-uses, the lack of activity around secondary airports is one of their strongest assets. Airport operators that wish to benefit from this must be able to market this space for potential future cargo-related uses. Websites of airports committed to luring dedicated air cargo activity often place a great deal of emphasis on marketing surrounding real estate properties to potential cargo or distribution firms. Airport operators, economic development officials and real estate firms need to act collectively to ensure that these properties are marketed effectively and made "shovel ready" to attract investment to benefit the airport as well as the regional economy.

An Anchor Tenant

For a cargo-focused airport, an anchor tenant is defined as a single airport user that can drive the usage of airport facilities. The presence of an anchor tenant is viewed as a critical component to enabling a critical mass of cargo at an airport because their level of usage at the airport requires them to bring or attract many of the ancillary services required for processing cargo through an air facility. For secondary airports seeking to expand their market share of cargo and compete with established gateways and

Figure 2.5: Image of DHL Operation

Source: Associated Press, AP (2005)
An integrated carrier such as FedEx, UPS or DHL is considered the *ultimate* anchor tenant as they essentially drive facility usage and can bring many of the intermodal and support services on to an airport facility. This is an Image of a DHL DC-9 cargo jet at a DHL distribution facility at March Air Reserve Base in Riverside California

hubs that have significant air *passenger* traffic, an anchor tenant can essentially replicate the agglomeration effect already established at gateway airports like JFK and Pearson.

An integrated carrier like FedEx or DHL is seen as the gold standard for anchor tenants because they bring with them a fleet of air carriers, trucks, handlers, brokers, etc. However, an anchor tenant does not necessarily have to be an integrated carrier. It could be a manufacturer that utilizes the airport as an integral part of their operations or a freight forwarder who designates an airport as their preferred entry or destination point for a significant segment of their market. Examples of non-integrator anchor tenants at cargo-focused airports include the Speigel/Eddie Bauer distribution center at Rickenbacker and Swiss-based freight forwarder Panilpina at the Port of Huntsville (Alabama).

Maintaining Competitiveness

The fourth and final benchmark, *Maintaining Competitiveness*, relates to long-term needs for the airport operator to adjust to the changing air cargo market. As the list of airports aspiring to become cargo-focused facilities increases, airports must continue to adjust to market conditions and reevaluate/strengthen their assets.

Maximize existing resources in response to changing trends in air cargo market

Airports that have been successful in creating a critical mass such as Rickenbacker, Huntsville International Airport and Fort Worth Alliance have recognized that in order to stay competitive, they must continue to expand their scope and leverage their resources accordingly. One such strategy that appears to be growing is to broaden their identities as not just airports, but as global multi-modal cargo complexes serving as many modes of freight transportation as possible. Further, these airports are branding themselves as such. Rickenbacker is formulating a development plan to become the Rickenbacker Global Logistics Park while Huntsville's facility is part of the intermodal Port of Huntsville which includes the Huntsville International Airport, the International Intermodal Center and Jetplex Industrial Park.

Figure 2.6: Image of Rail Operation at Port of Huntsville International Intermodal Center

Source: The Decatur Daily (2005)

Even though cargo transported by air rarely shares modes with rail, possessing intermodal capabilities is increasingly being seen as an asset for building a comprehensive logistics facility.

Continue to work with area stakeholders in improving competitiveness of airport

While meaningful involvement of public and private stakeholders are necessary from the onset of cargo-focused airport planning, continued involvement of these groups can enable airports to meet emerging needs of the airport as they arrive. If partnerships and support from politicians, development officials, businesses, and real estate entities are established early in the process, this becomes a lot easier. The final section of this report will provide recommendations of how the NFTA can create these partnerships and work with a range of groups and individuals to advance NFIA's role as a global player in the air cargo industry.

NFIA and Criteria for Success

As documented in subsequent sections of this report, the Niagara Falls International Airport meets the *Mandatory Assets* for air cargo as well as many of the ancillary ingredients needed for attaining measurable amounts of cargo at its facilities. However, the actual success of NFIA will depend on its ability to leverage the resources its has through a concerted effort involving various regional and bi-national stakeholders and groups.

Endnotes

1. "The Global TransPark Series"
2. "Karp #1"
3. Gardiner; Wilbur Smith "Tying"; Official airport websites of studied airports
4. Wilbur Smith "Tying"
5. Gardiner
6. Hummel
7 Gardiner

Figures, Sidebars & Quote Boxes
i. "Karp #1"
ii. Usman

Section 3

Unique Location

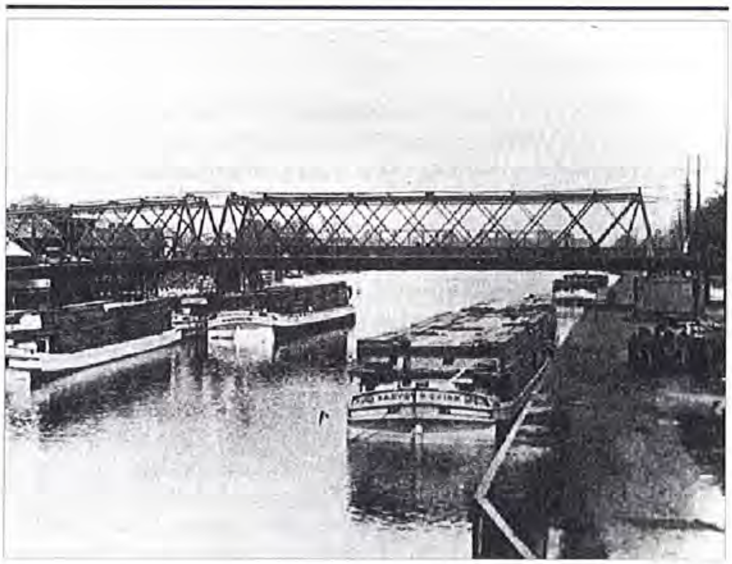
Airports seeking entry into the global air cargo market must be strategically located. Because "cargo airlines prefer to operate from airports close to the markets served,"[1] cargo operations ideally locate at airports in relatively close proximity to high population concentrations and clusters of industries, usually within 100 to 500 miles of the airport. Additionally, it is imperative that cargo facilities have quick access to the highway system for the seamless distribution of goods to market. The Niagara Falls International Airport is not only unique in its proximity to the Eastern Seaboard and prominent Midwestern destinations, but is also minutes from the burgeoning Golden Horseshoe region of Southern Ontario.

Buffalo Niagara Region

A Gateway for Trade

Historically, the Buffalo Niagara region's economy has centered around shipping and manufacturing due to its prime geographic location. At the turn of the 20th Century, the region's strategic position in relation to the Great Lakes/St. Lawrence Seaway System, the Erie and Welland Canals and the extensive rail lines that stretch across the bi-national region made this one of the greatest inland ports in the nation. The low cost of shipping into and out of the area enabled the Buffalo Niagara region to emerge as the quintessential boomtown of the 19th and early 20th centuries.

Figure 3.1: Image of the Erie Canal 1905



Source: Erie County Historical Society (1905)

The Picture above shows the Erie Canal in the Spring of 1905, looking east toward Delaware Street. The barges are loaded with lumber, ready to be hauled eastward when the canal opens for the season.

The City of Buffalo is ranked as the fifth busiest trade city in the United States and is at the center of the fifth largest market. In 2003 alone, the Buffalo Niagara Falls metropolitan region produced $3.5 billion in export sales to the world.[i]

-Canadian Consulate General Overview of Buffalo Post Territory

While the time of the Erie Canal has long since passed, Buffalo Niagara continues to act as a trade gateway given its location on the border of Ontario, Canada. Ranked as the nation's fourth busiest land gateway for international trade (based on value of imports and exports crossing the border), $81 billion in trade annually crosses the region's six international bridges. This constitutes 30 percent of the total trade conducted between the two largest trading partners in the world, the US and Canada. Approximately 77 percent of the freight that travels across the region's border is on trucks. This trade corridor serves almost every state, such that approximately 80 percent of the trade that passes through this border originates or is destined for other states.[2]

A Diversified Economy

In response to globalization, the region's economy has become increasingly diversified with five industry clusters that have been expressed as Buffalo Niagara region's greatest potential for success. These clusters include Life Sciences, Advanced Manufacturing, Back Office/ Customer Service Centers, Logistics, and Tourism. Highly concentrated throughout the region's economic base, these industries provide the majority of jobs in the area. Regional economic development officials contend that the targeted expansion of these industry clusters will provide the Buffalo Niagara region with entrepreneurial opportunities, business expansion, and make the region attractive to outside businesses looking to access this bi-national market and opportunities in these industry clusters.[3]

The life sciences industry in the Buffalo Niagara region is fueled by cutting-edge research facilities and a highly skilled workforce. The region is widely known as a leader in fields such as oncology, neurology, proteomics, drug discovery, and dental medicine. Public and private funding totaling more than $250 million was invested in research institutions in 2004, and nearly $300 million has been invested in critical life sciences infrastructure and facilities since 2001. In addition to the research that is being conducted in the practice of medicine, the region also has a strong concentration of pharmaceutical companies and medical technology firms. Within a 90 mile radius of Buffalo, there are approximately 650 firms in the medical industry. Examples of this include AstraZeneca Canada, MDS Proteomics, Baxter Corporation, Amgen Canada, GlaxoSmithKlein and Pfizer Global.[4] A strong concentration of these firms that generally export highly valuable, low weight freight is attractive to cargo airlines.

NAFTA Increases Trade Relationship

The North American Free Trade Agreement (NAFTA) liberalized trade between Canada, the United States, and Mexico. The volume of goods, services, and investment flowing between Canada and the United States is the largest two-way trade relationship in the world. NAFTA significantly increased the role the border has played as a gateway of trade and travel and the development of the Buffalo Niagara region and Southern Ontario.

While the region's economy has been moving away from its industrial heritage for over fifty years, advanced manufacturing that relies upon new technology, improved production processes, and highly skilled workers continues to be a stronghold for the region. Many of the advanced manufacturing corporations have invested nearly $400 million to upgrade their plants in the Buffalo Niagara region because they recognize the value of their location and proximity to this market.[5]

Buffalo Niagara has continued to be a center for trade logistics, benefiting from its strategic location. Section Four: *Buffalo Niagara Human Capital* provides a detailed description of this industry cluster and how the region's experience in trade distribution provides an enormous asset for air cargo at NFIA.

Access to international markets is critical to these three industry clusters in order to remain globally competitive. The expansion of the cargo facility at Niagara Falls International Airport could diversify the region's burgeoning logistics industry while concurrently attracting ancillary economic activity that would strengthen and develop all industry clusters. Because bio-technology and advanced manufacturing firms increasingly rely upon air cargo for their distribution and production needs, NFIA can act as a catalyst for existing targeted industry clusters within the region.

Golden Horseshoe: The Economic Engine of Canada

The Golden Horseshoe is a term commonly used to describe the urbanized and highly industrialized region of Southern Ontario that wraps around the western end of Lake Ontario, from Oshawa to Niagara Falls, Ontario. Statistics Canada used the term in 2001 to describe the immediate census divisions around the lake; the population of this area was approximately 6.7 million at that time. In 2004, Ontario's Ministry of Public Infrastructure Renewal expanded the focus area and coined the name "Greater Golden Horseshoe" in their report on *Places to Grow*. Under this expanded definition the region then included the census divisions adjacent to the initial Golden Horseshoe, *see Figure 3.2*; the 2001 population of this larger region was approximately 7.8 million.[6] According to the 2006 Growth Plan, the population is expected to grow by an additional 3.7 million people by 2031, giving the region an anticipated population of 11.5 million.[7]

Additionally, the Greater Golden Horseshoe is the economic engine of Canada, as well as the hub for research and development. The economy is predominantly manufacturing based with 70 percent of the workforce in the manufacturing sector. Major research facilities in the Greater Golden Horseshoe include the Waterloo Research and Technology Park, the McMaster Innovation Park, and the MaRS Discovery District in Toronto; as well as Brock University, Mohawk College of Art and Technology, and Niagara College. By 2031, the Greater Golden Horseshoe is expected to grow by almost four million people and two million jobs, making this the third fastest growing region in North America.[8]

This growth is welcomed with enthusiasm as it is recognized to generate skilled jobs, attract investment, and create new opportunities. The *Places to Grow* report was published by the Ministry of Public Infrastructure Renewal of Ontario, to respond to this growth in a manner that will foster continued development while being sensitive to environmental and agricultural concerns. The growth of the Southern Ontario population and economy reinforces the opportunities available to NFIA, in that cargo operations and subsequent economic development that follows will not only be serving the population of Western New York, but also that of the Greater Golden Horseshoe.

Figure 3.2: Buffalo Niagara as an Extension of the Greater Golden Horseshoe

Source: The Institute for Local Governance and Regional Growth (2006)

The Greater Golden Horseshoe is the heart of Ontario's economic growth including the Greater Toronto Area and the City of Hamilton.

Figure 3.3: The Region's Edge

Source: The Institute for Local Governance and Regional Growth (2006)

As argued in a series of reports by the *Institute for Local Governance and Regional Growth* at the University at Buffalo, the Buffalo Niagara region's position as the trade gateway to the Golden Horseshoe is an enormous asset. Leveraging this geographic resource requires the Buffalo Niagara region to orchestrate strategies for enhancing its level of service to the burgeoning region in Southern Ontario. Establishing NFIA as a cargo and logistics hub can advance this goal.

Upon the growing popularity and use of the term, some have concluded that the metropolitan areas on the US side of the border are a natural extension of the Canadian Golden Horseshoe. This is an implicitly natural fit due to the tradition of good relations at the border and the openness to commerce and investment following the liberalization of trade under the free trade agreement. The population of this bi-national Golden Horseshoe extending from Oshawa, Ontario to Rochester, New York was estimated to exceed ten million in 2001.[9]

Figure 3.4: Major North American Cities located within NFIA's "Bulls Eye"

Source: GIS Dataset

Figure 3.5: Distances to Metropolitan Areas with Populations Greater than 250,000

Metropolitan Area	Approximate Drive Distance (miles)	Approximate Drive Time	Population (thousands)
Buffalo-Niagara	-	-	1,170
Hamilton	60	1hr	510
Rochester	80	1hr 30min	1,098
Toronto	88	1hr 45min	2,590
Syracuse	160	2hr 45min	732
Cleveland	214	3hr 15min	2,945
Youngstown	214	3hr 30min	594
Pittsburgh	234	3hr 30min	2,358
Detroit	263	4hr 45min	5,456
Albany	295	4hr 45min	875
Harrisburg	305	5hr 45min	629
Toledo	306	5hr 15min	618
Ottawa	351	5hr 30min	1,063
Columbus	352	5hr	1,540
Allentown	360	6hr	637
Montreal	401	6hr 30min	3,426
New York	401	6hr 15min	21,199
Baltimore	419	7hr 15min	754
Philadelphia	424	6hr 30min	6,188
Cincinnati	454	6hr 30min	1,979
Boston	460	6hr 30min	5,819
Washington D.C.	474	7hr 15min	6,854
Indianapolis	526	7hr 30min	1,607
Dayton	428	7hr	950
Lexington-Fayette	536	8hr	1,607
Chicago	556	8hr 15min	9,157
Quebec	558	9hr 30min	7,397
Louisville	561	8hr 15min	1,607

Source: Yahoo Maps, US Census, and Statistics Canada (2006)

The "Bulls Eye": NFIA's Market Catchment

The Niagara Falls International Airport is strategically located in terms of its proximity to population and major markets in North America. The "bulls eye" represents two important circles that can be drawn around the Niagara Falls Airport in consideration for air cargo: one with a 100 mile radius, and the other with a 500 mile radius, *see Figure 3.4*.

Integrated Carriers (such as Federal Express, UPS, and DHL) choose airport locations that serve geographic areas with-in 100 miles. The reason that these carriers choose such a small area is that they desire markets that are tightly defined and in locations near the largest

Figure 3.6: NFIA's Quick Access to the Highway System

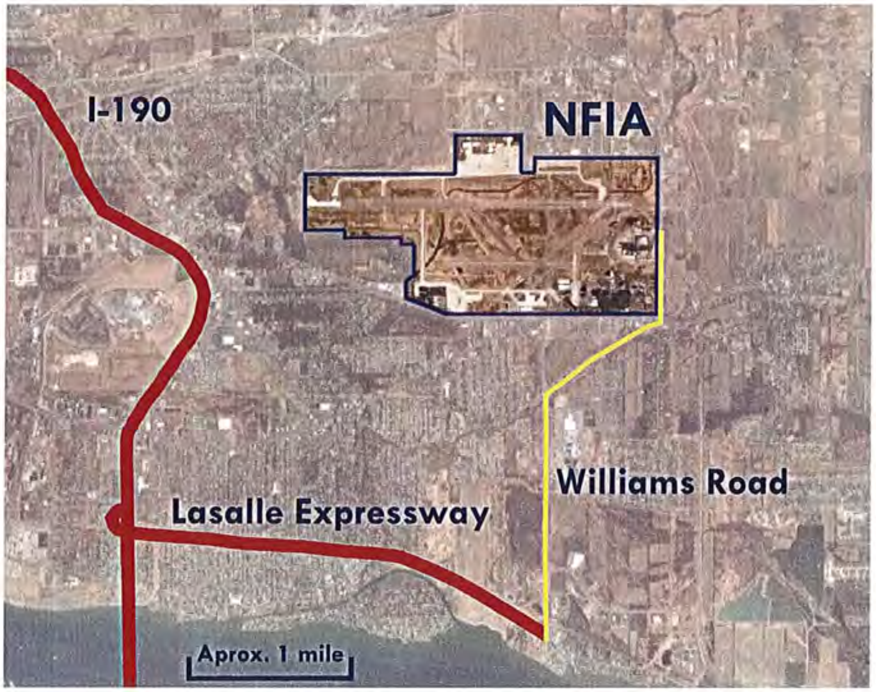


Figure 3.7: International Interstate Connections

Source: GIS Dataset; Google Earth Imaging (2006)

Figure 3.6 depicts the seamless connection to the highway system for trucks arriving to, and departing from, NFIA with shipments of cargo.

Figure 3.7 shows the network of interstate highways connecting to all the major metropolitan areas within the "bulls eye" -the standard one-days drive for trucks leaving the Niagara Falls International Airport.

concentration of customers. This is a direct result of the market for these carriers often including overnight services and just-in-time delivery. NFIA's market catchment for integrated carriers includes the Buffalo Niagara region, the Greater Rochester region as well as the Greater Toronto Area.[10]

In contrast, freight forwarders and all cargo carriers focus on the 500 mile radius around the airports they choose for their cargo operations, as the distribution of cargo flowing into an airport is a mere one day's drive to all destinations within that circle. The 500 mile radius circling the Buffalo Niagara region contains about 55 percent of the US population and 62 percent of the Canadian population, *see Figure 3.5.*[11] This includes the major metropolitan areas of Boston, New York City, Washington DC, Baltimore, Philadelphia, Toronto, Montreal, Detroit, and Chicago. This strategic location along with the region's extensive access to highway, rail and water allow NFIA access to the largest market in North America.

Transportation Infrastructure: Access to Highway, Rail &Water

When establishing a cargo focused facility, access to the airport is crucial for the distribution of goods to and from the airport. Trucking is the favored method of distribution for air cargo freight, such that the relatively small, light weight, highly valuable cargo can easily and safely be transferred from one mode to the other. However, it is also beneficial to note access to other forms of distribution in order to discern the potential for a future multi-modal cargo facility.

Direct Highway Access

Trucks departing from Niagara Falls International Airport can easily access Interstate 190 via the LaSalle Expressway approximately two miles from the airport. Interstate 190 runs north and south, connecting to both the Lewiston-Queenston Bridge and the Peace Bridge (the two bi-national bridges open to commercial truck traffic), and to the New York State Thruway (Interstate 90), *see Figure 3.5*. The New York State Thruway connects all the major metropolitan regions within New York State as well as provides access to other major cities through its link with the regional highway grid.

International Bridges

NFIA's location is positioned perfectly on an important cross-border trade route. One benefit of this bi-national border crossing is that as immigration and trade restrictions heighten on either side, the economic relationships between the United States and Canada have also strengthened, due to the mutual benefits of an expanded market. About $1 billion (US) worth of traded goods cross the US-Canadian border each day; about 30 percent of which trade occurs at Western New York border crossings in the Buffalo Niagara region.

The large numbers of frequent travelers and transporters influenced efforts to ease border crossing restrictions. Such efforts include the Free and Secure Trade (FAST) program, a joint Canadian-US initiative involving the Canada Border Services Agency, Citizenship and Immigration Canada, and the United States Bureau of Customs and Border Protection (CBP). FAST's intent is to provide greater speed and certainty at the border and a lower cost of enforcement through sound risk management techniques. In addition, both the Niagara Falls Bridge Commission and the Buffalo and Fort Erie Public Bridge Authority offer on-line webcams and 24-hour bridge condition hotlines so travelers can plan appropriately.

Figure 3.8: Proposed Peace Bridge Expansion Project

Source: The Peace Bridge website (2006)
The Peace Bridge Authority began the process for preparing an expansion plan for the Peace Bridge, in 2001. While the completion of this expansion is not expected for some time, the added capacity of an expanded Peace Bridge will significantly enhance the region's existing role as a freight gateway.

The International border is connected by four road bridges and 3 rail bridges over the Niagara River. The Peace Bridge connects Buffalo, New York to Fort Erie, Ontario, and is controlled by the Buffalo and Fort Erie Public Bridge Authority (also known as the Peace Bridge Authority). Additionally, the Rainbow, Whirlpool Rapids and Lewiston-Queenston Bridges are under the control of Niagara Falls Bridge Commission. Both the Rainbow and the Whirlpool Rapids Bridges connect Niagara Falls, New York and Niagara Falls, Ontario; however neither of these bridges are open to commercial trucks. The commercial permissible crossings represent vitally important facilities not only to this immediate region, but to both of the nations that they serve. An example of this is the large area of the United States that is serviced by this border area: nearly 80 percent of the truck crossings in the Buffalo Niagara region have destinations to or originate from other states.[12]

Peace Bridge

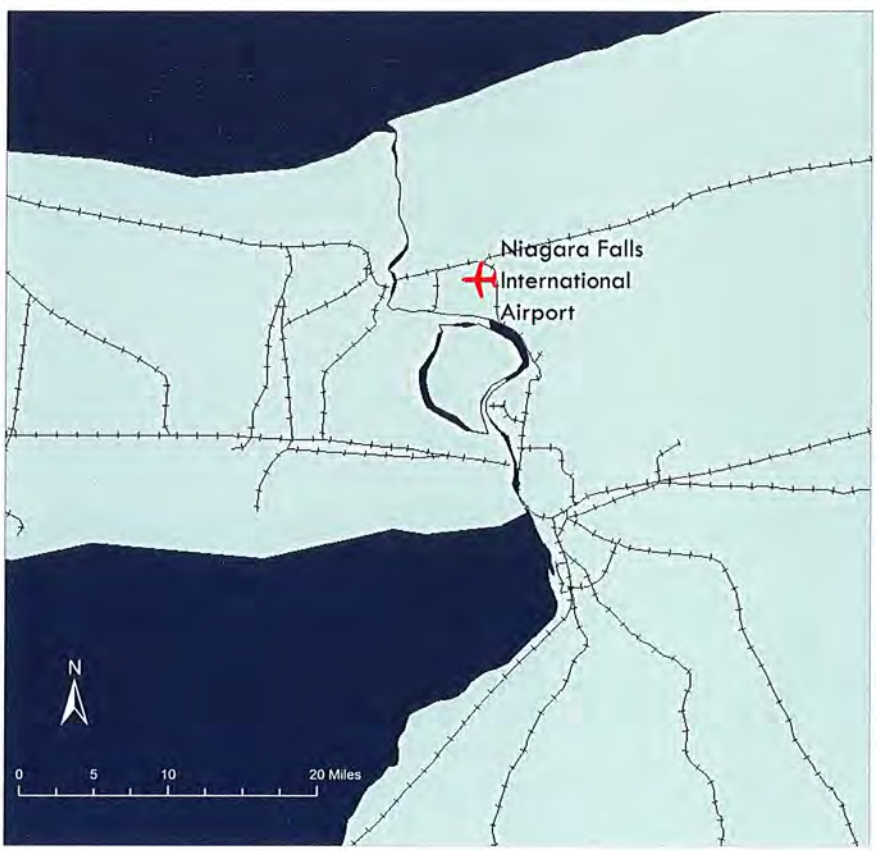
Approximately 5,800 feet long, the Peace Bridge is the premier commercial bridge crossing in the region. With three lanes (one reversible to accommodate peak traffic volumes), the Peace Bridge accommodates approximately twenty-thousand cars and trucks daily, with close to thirty-thousand cars and trucks during peak seasonal volumes. In 2005, 6.9 million cars and trucks crossed the Peace Bridge; of which 81 percent were automobiles and 19 percent were trucks.[13] As traffic levels continue to increase, especially with increased cross-border trade, the Peace Bridge Authority is progressing with plans to add to existing capacity by building a parallel span. Pending on the final design of the proposed expansion, the bridge will provide an additional three or six lanes.

Lewiston-Queenston Bridge

The Lewiston-Queenston Bridge, a steel arch bridge opened in 1962, is currently open to all vehicular traffic. The bridge connects two heritage communities: the Town of Lewiston in New York, and the Village of Queenston in the Town of Niagara-on-the-Lake, Ontario. This bridge has recently undergone major construction to add an additional fifth lane in order to reduce traffic congestion. This lane will be open primarily to commercial trucks enrolled in the bi-national Canada-U.S. Free and Secure Trade (FAST) pre-screening program. This bridge is the fourth busiest crossing between the US and Canada.[14] Traffic counts of the Lewiston-Queenston Bridge show that in 2005 2.08 million cars and trucks entered into Canada, 23 percent of which were commercial trucks and 77 percent of which are cars. In the same year, 1.95 million vehicles entered into the US, but totals for truck, car, and other modes are not available.[15]

Over one million trucks per year use the Peace Bridge and Lewiston/ Queenston Bridge to haul freight into the US from Canada. Between 1994 and 2003, the number of trucks entering the US through these facilities grew by 31 percent.[ii]
-US Dept. of Transportation

Figure 3.9: Existing Rail Lines in the Buffalo Niagara Region



Source: GIS Dataset

The Buffalo Niagara region is a center for rail transportation, serviced by 4 international rail operators, contributing to 15 percent of the region's total land trade.

Rail

The Buffalo Niagara region is one of the nation's largest rail centers with access to US and Canadian rail line operators such as CSX, Canadian National, Canadian Pacific, and Norfolk Southern, *see Figure 3.9*. In 2003, rail carried more than $9 billion (15 percent) of Buffalo Niagara's land trade across the international gateway. Currently, the states that are served by the Buffalo Niagara rail crossing into Canada include New York, Pennsylvania, Ohio, Illinois, Michigan, and New Jersey.[16]

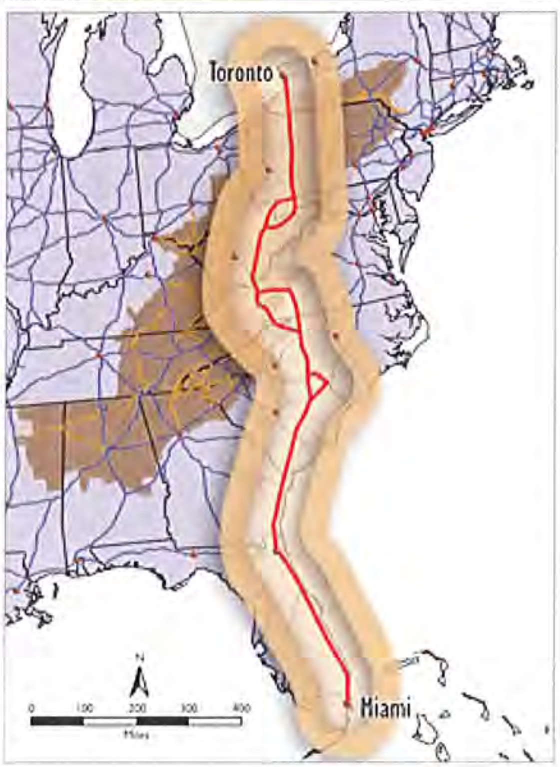
In a 2006 report for the Atlantic Institute for Market Studies, Stephen Kymlicka explores the benefits of a multi-modal rail facility in the Buffalo Niagara metropolitan area. This report is endorsed by the Port Authority of New York and New Jersey (PANYNJ) due to the current congestion in and around the Port, and the anticipation of increased flows into and out-of the Port. One of the major sources of this congestion is the time consuming process of loading and unloading trucks at the Port, as well as the subsequent congestion of the highway system. Kymlicka explains the optimal alternative to this congestion is to ship containers arriving at the PANYNJ to the Buffalo Niagara region via rail, and transfer it to trucks here for distribution.[17]

Trade Corridor

Continental 1

Continental 1 is a bi-national alliance made up of business, community, and political leaders dedicated to the development of an international travel and trade corridor extending from Toronto, Ontario to Miami, Florida. This proposed corridor would stretch 1,500 miles, and serve a marketplace that includes the inland geographic area from the Mississippi River to the Eastern Seaboard, *see Figure 3.10.*[18]

Figure 3.10: Proposed Continental 1 Trade Corridor



Source: Atlantica Institute for Market Studies (2005)
The completion of the proposed north/south corridor will create connections to markets currently not easily accessed from this region, as well as make the Buffalo Niagara region a gateway for increased international trade.

In order to complete this trade corridor, an extension of State Route 219 in Western New York would have to be added to accomplish the connection of Southern Ontario to all points south. On November 28, 2006, the New York State Department of Transportation announced an $80 million expansion project for US Route 219 through Zoar Valley in the Southern Tier of Western New York. This extension will require the building of two bridges through the valley; and construction is scheduled to begin in the Spring of 2007.

In terms of the Buffalo Niagara region, establishing this trade passageway would open the area to traffic that currently bypasses this region entirely because of the lack of a north-south connection. This will not only provide easier access to other markets but also increased through-traffic that will contribute to the growth of regional economy. The development of this dedicated trade corridor would attract traffic from Canada that is currently being routed through Michigan and Central United States, and open markets in the Southeastern region of the US to Canadian markets via the Buffalo Niagara International Gateway.

Marine Port

The port system in Buffalo is an integral shipping center for manufactured goods from the east coast. Additionally, it is said to maintain specialized grain storage, milling, and processing facilities, making it one of the world's greatest facilities for grain handling.[19]

The Port of Buffalo, operated by Gateway Metroport, is located at the eastern end of Lake Erie, and is the first major US port of call encountered upon entering the Great Lakes. It is ranked 28th among all US Seaports, and seventh of the Great Lakes Ports. The port has excellent facility access for ships, including piers with 27 feet of water (Seaway standard depth) alongside, and can handle seven vessels simultaneously. Additionally, the port is equipped with a number of heavy fork lift trucks, two portable conveyor belt systems and other modern material handling equipment, as well as the recently acquired a 230 ton American crawler crane and a heavy duty front end loader.[20]

The Power of Location

As a quality that cannot be replicated, a strategic location is an inherent asset that remains important in the distribution and manufacturing processes of today's globally dispersed economy. Without a strategic location, in terms of proximity to markets and access to highways, air cargo companies will not even consider an airport for the location of their operations. Given the region's access to major US population centers and markets as well its proximity to the nexus of Canada's economy, the Niagara Falls International Airport is strategically positioned to emerge as a competitive air cargo facility. The emergence of complementary infrastructure enhancements, such as the extension of Route 219 as a part of the Continental 1 Trade Corridor and the building of the Peace Bridge extension, will strengthen the role of this region as a gateway for freight shipment. Enhancing the capacity of air cargo at NFIA will add to the region's existing multi-modal infrastructure and advance the region's position as a distribution center for goods from all forms of transportation.

Endnotes

1. Gardiner
2. Canadian Consulate
3. U.S. Census
4. BNE #2
5. BNE #1
6. Wikipedia
7. Ministry of Public Infrastructure
8. Hemson
9. U.S. Census and Statistics Canada
10. Wilbur Smith "Tying"
11. Canadian Consulate
12. New York State
13. Peace Bridge Authority
14. Niagara Falls Bridge Commission #1
15. Niagara Falls Bridge Commission #2
16. US DOT "America's Freight Gateways"
17. Kymlica
18. Atlantica
19. "Buffalo Economy"
20. Port of Buffalo

Figures, Sidebars & Quote Boxes

i. Canadian Consulate
ii. US DOT "America's Freight Gateways"

Section 4

Buffalo Niagara Human Capital

Apart from the hard infrastructure needed to support an increased cargo operation at Niagara Falls International Airport (NFIA), the region also has the necessary *soft infrastructure*. This soft infrastructure includes specialized logistics companies and low labor costs associated with a highly skilled, educated, and productive workforce. All of these can strengthen, and be strengthened by, a quality NFIA cargo operation.[1]

In the 2006 report *An International Study of the Airport Choice Factors for Non-Integrated Cargo*, cargo airlines found customs administration, with particular reference to clearance time, to be important.[2] The large number of customs officials present on both sides of the bi-national region's border benefits NFIA, providing reliable, timely customs clearance and creating a source for competitive advantage.[2]

The Buffalo Niagara region has more licensed customs brokers per capita than any other location in the US.[3] Brokers aid companies wishing to import goods into the US from other parts of the world, then ship them to Canada or vise versa. They act on the company's behalf to complete the necessary paperwork required to place the cargo in bond and then ship it across the border. Another broker on the other side of the border enters the goods into that country's economy and the shipper pays only one duty - that of the receiving country - rather than two - in both the arriving and receiving countries. Having a large presence of customs brokers enhances the region's capacity to handle air cargo growth and facilitate cross-border trade.

Figure 4.1 Image of Duty Free Plaza, Peace Bridge

Source: Photo by Dan Learn (2001)

Trucks at the Peace Bridge Duty Free Plaza crossing into the U.S.

Regional Industries

A glimpse at the various industries within the bi-national region reveals a diverse economy with heavy employment in educational services, health care, social assistance, manufacturing, and retail trade. The large number of manufacturing and retail trade companies located within the region positions the Niagara Falls International Airport for growth as more companies begin shipping their goods and supplies internationally via air cargo. The logistics companies in the area can serve as the linkage between these companies and the Niagara Falls International Airport.

The manufacturing sector would directly benefit from an improved cargo facility at NFIA. Almost 13 percent of the region's workforce on the US side of the region is in manufacturing[4] while, across the border in the St. Catharines-Niagara Falls, Ontario area, manufacturing accounts for about 17 percent of the workforce.[5] A cargo facility at NFIA would benefit both manufacturing companies and any business expansion requiring cross-border or international shipment of final products.

Logistics

Third Party Logistics (3PL) is the outsourcing of logistics work to a company that has expertise in, and deals exclusively with, trade logistics. Such companies take responsibility for getting an item from the original party to its final destination.[6]

There is a growing demand for third party logistics suppliers in today's global economy because of how efficiently they deal with issues involving the international shipment of goods.[7] Outsourcing logistics work to 3PLs that manage the process quickly and accurately is especially

Logistics Defined

Third party logistics (3PL) providers are companies hired by other companies seeking to outsource their distribution and supply chain needs. They may do this by contracting with transportation companies and drivers, determining routes, monitoring shipments in route, taking responsibility for shipments arriving on time, and managing any other logistical issues.

Third party logistics providers allow companies to devote their manpower to whatever task they specialize in. 3PLs, because of the quantity of goods that they deal with and their industry connections, are able to offer competitive prices for their work, which creates an increased demand for their work. Many 3PL companies rely on advanced computer systems to increase efficiency in handling these tasks.[i]

beneficial to companies that do not have the expertise to deal with many of the issues associated with the transshipment of goods. These include cost of fuel, insurance prices, availability of trucks, distribution contracts, and route management.[8] Further, this outsourcing of logistics work is particularly beneficial to companies that need to import multiple items and repackage them as sets ("pick and pack"), or assemble individual pieces to create final products, which are then shipped to their final destinations.

"[Manufacturing companies] have had to look at the costs of handling supply and distribution of both materials and finished goods themselves and weigh it against the benefits of outsourcing to third parties."[ii]
-Scott Rosenberger, Managing Director of Transportation, BearingPoint

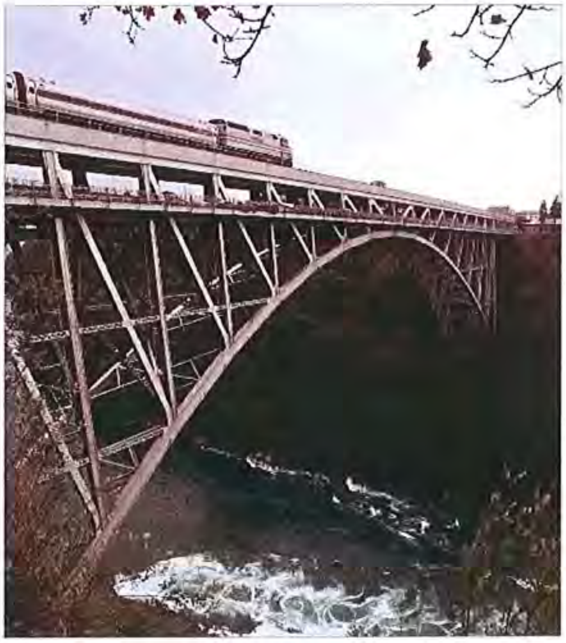
In addition, third party logistics providers work remarkably well with companies needing to ship smaller ("less than truckload") amounts of goods as they can combine shipments from different companies in order for the shipping process to remain cost-efficient.[9]

Buffalo Niagara Logistics

The Buffalo Niagara region has traditionally been a center for trade, and thus has become a logistics center in the process. In the past, companies utilized the area's location on the Great Lakes and the Erie Canal to get products from manufacturer to market. The region's vast rail network includes three international railroad crossings: the International Railroad Bridge which is just north of the Peace Bridge; Michigan Central Bridge, south of the Whirlpool Bridge; as well as the upper deck of the Whirlpool Bridge. The strong logistics history of the region, and the current presence of 3PLs, enhances NFIA's ability to market itself as an important logistics center and illustrate the potential demand for increasing air cargo operations.

Expansion Management Magazine and Logistics Today Magazine ranked the Buffalo Metropolitan area as the 30th (out of 362 metropolitan statistical areas) most logistics friendly in 2005.[10] Factors involved in their rating include the transportation and distribution industry, transportation and distribution workforce, road infrastructure, road congestion, road conditions, interstate highway access, vehicle taxes and fees, railroad congestion, waterport access, and air cargo access. Buffalo was ranked 6th for road infrastructure, relating to highway maintenance and future adequacy of roads for logistics purposes. Buffalo also ranked high (14th) in the category of transportation and distribution workforce because of the high number of logistics employees present in the area and the relatively low wages demanded in comparison with other metropolitan areas. Western New York as a whole employs almost 25,000 people work in Distribution related industries.

Figure 4.2 Image of Whirlpool Bridge



Source: Associated Press, AP (2006)

An Amtrak Train is crossing the Whirlpool Bridge from Niagara Falls New York to Niagara Falls Ontario, on the 100th anniversary of the bridge in 1997. Apart from rail, the bridge also serves motor vehicle and pedestrian traffic..

Fetch Logistics: A Regional Success Story

Fetch Logistics is a third party logistics provider currently located in Amherst NY, that manages the transportation of goods to and from all areas of the U.S., Canada, and Mexico.[iii] Although the company is relatively young, formed in 1997, it has grown at an extremely fast rate. In 2004, the company had over 50 employees, was experiencing 129% annual average growth, and ranked as the 281st fastest growing privately held company in the U.S. by Inc. Magazine.[iv] In the past 5 years, the company increased sales from 5 million to 27 million - a 440% increase.[v] This extreme growth illustrates that a current demand exists in the area for third party logistics companies and suggests the possibility for new logistics businesses to be created. Other logistics companies in the Buffalo Niagara region include A.N. Deringer, BCB International, Cornerstone Logistics, Extra Mile Transportation, and Skulogix Inc.

In the air cargo category of this study, Buffalo ranked 58th in terms of number of air courier companies and air cargo tons. The introduction of a cargo operation at NFIA would have a direct positive impact on this evaluation category and would further increase the area's appeal as a logistics center.[11]

A large part of the logistics business involves the distribution companies that physically move goods from one location to another. Western New York has a large concentration of distribution companies that can handle increased demand that would come with the growth of air cargo traffic at NFIA. In 2001, the region had almost 25,000 employees involved in distribution at over 3,000 establishments, an approximate 6 percent increase from 1996.[12]

Regional Labor Force

New York State is home to one of the most productive manufacturing workforces in the country. Measuring productivity by the amount of value added by manufacturers per wage dollar, New York ranks 11th in the United States with an average of $6.19 added per dollar of wages. This outpaces the US average of $5.60 by over 10 percent.[13]

Another strategic advantage for businesses around NFIA is the low labor costs. The average annual salary in the Buffalo Niagara region is $36,010, almost 5 percent lower than the national average of $37,870. Potential savings are even more apparent when compared to other northeastern metropolitan areas: New York City - $47,200; Cleveland, Ohio - $38,560, and Detroit, Michigan - $44,110.[14]

Figure 4.3 Western New York Distribution Related Industries Employment

Industry Type	Establishments	Employment
Trucking & Warehouse	588	8,351
Water Transport	40	559
Air Courier Services	21	2,001
Pipeline xcp Natural Gas	2	4
Arrange Transport Freight & Cargo	108	1,836
Misc Services Incidental to Transport	11	92
Wholesale Trade Durable Goods	1,721	9,431
Wholesale Trade Non-Durable Goods	699	2,411
Total	3,190	24,685

Source: Empire State Development (2003)

Education and Workforce Training

Within Erie and Niagara Counties, a workforce of over 560,000 individuals provide companies with the skilled and educated employees they need. Approximately 83 percent of the workforce holds a high school diploma and 23 percent have bachelor's degrees. Across the border, the St. Catharines/Niagara Falls metropolitan area in Southern Ontario has a workforce of over 190,000 highly educated individuals. Almost 87 percent of the St. Catharines/Niagara Falls metropolitan population has high school diplomas and 20 percent hold college degrees.[15] A region such as this, with a large percentage of educated workers, can adapt to a continuously changing economy and obtain the skills necessary to compete globally.

Workforce development programs are available within Erie and Niagara Counties to help maintain a competitive workforce. The Niagara County Industrial Development Agency (NCIDA) and the Erie County Industrial Development Agency (ECIDA) offer a wide range of programs available to train a highly skilled workforce.

The NCIDA, through the Center for Economic Development, offers customizable corporate training programs to meet the needs of any industry, a small business development center to help start up companies with counseling and support, and an international trade resource center to provide import and export assistance as well as seminars on important international trade topics. The NCIDA also provides placement services to link graduates of area colleges and universities with companies searching for employees with their skills. Additionally, the NCIDA offers community education providing short term vocational training, computer training, and professional development to meet the needs of local employers.[16]

The ECIDA is also available to assist companies in training a highly skilled and competitive workforce. In addition to the services provided by NCIDA, the ECIDA is the only agency in the country with an approved export-import bank broker and delegated authority lender, allowing import-export companies to work directly with the ECIDA for financing. This program recently expanded and now offers a total of $100 million in support for local import/export companies.[17] Additional assistance is provided to companies for preliminary market analysis, technical assistance, and foreign trade zone operation, currently available at NFIA (Foreign Trade Zone #34) and within Buffalo, NY (Foreign Trade Zone #23). The services provided by NCIDA and ECIDA are targeted at ensuring that each company in the region has the resources necessary to succeed in today's economy.

The region's fourteen colleges and universities make advanced education opportunities available to residents and attract students from all over the world. Local colleges and universities offer programs and courses in a wide range of academic disciplines. With a total enrollment of over 100,000 students, these schools help supply the region's workforce with highly educated workers.[18] The anchor academic institution of the region is the State University of New York at Buffalo (UB), with an enrollment of almost twenty-eight thousand students.[19] As one of the largest research institutions in the country, UB is in position to expand its enrollment and degree offerings to meet the needs of the changing economy. President John Simpson set a goal of increasing enrollment by 10,000 students and adding 750 faculty members by the year 2021.[20] UB has the desire and the capability of playing an even larger role in fostering growth within the region.

"[The Buffalo Niagara Region] should be the logistics capital of the world for Canada"[VI]
-Mary Mokka, Trade Commissioner, Canadian Consulate

The presence of a large research institution can benefit local economic development. As a large research institution, UB can partner with the private sector to provide the tools and research necessary to facilitate increased private sector investment within the region. An example of this type of a partnership in terms of the air cargo industry already exists between Ohio State University and Rickenbacker Airport in Columbus, Ohio. Ohio State is one of the largest research institutions in the country and utilizes its graduate degree program in marketing and logistics to work with the airport in the development of an advanced logistics park at Rickenbacker Airport. Ohio State is expecting this project to create 20,000 jobs and impact the local economy by over $15 billion in related activity over the next 10 years.[21] The University at Buffalo, like Ohio State University, is a large research institution capable of working closely with the private sector to provide the resources necessary to compete within the future.

Other area colleges and universities also provide support for logistics companies. Niagara University, for example, offers a degree in Supply Chain Management. Such programs are important if the Buffalo Niagara region aims for job growth in the logistics field. Further, the growth of the logistics industry cluster will create demand for more logistics degree programs. The

Canadian Business Expansion to Buffalo

Many companies have expanded their business from Canada to the Buffalo Niagara region. Such expansions are especially feasible for companies in manufacturing or logistics. The following incremental steps are often followed in order to facilitate gradual cross border expansion:

1) A company can set up a "virtual" office, including renting warehouse space and setting up a P.O. Box.

2) Next the company leases permanent warehouse space to ship and receive goods from. New York State allows tax-free third party warehousing.[VII]

3) Finally the company chooses to becomes a U.S. business, and creates a U.S. bank account. The company is now required to pay local, state, and federal taxes.[VIII]

This progression allows companies to expand across the border slowly and could have a positive impact on the growth of the Buffalo Niagara region.

students graduating from these programs would be prepared to work in an expanded logistics job market, and may even create new companies to respond to the needs of a growing market.

Future Industry Development

The large number of manufacturing and logistics companies in the region can help NFIA grow. The productivity of the workforce in these industries can also provide new manufacturing companies with the kind of employees necessary to be successful within the global economy. An expanded NFIA cargo operation would be beneficial to companies that have logistical operations to deal with their own products, and to Third party logistics providers specializing in managing the logistics needs of other companies.

"We are missing an opportunity by not developing this airport."[IX]
-Patrick J. Whalen, World Trade Center Buffalo Niagara

Third party logistics companies are already expanding in the Buffalo Niagara region and the introduction of a quality air cargo hub at NFIA would create an atmosphere for further expansion or relocation to the region. A company such as Fetch Logistics in Amherst, NY, expanding at an extremely fast rate, could further expand the air cargo portion of their logistics operations given the right opportunity.

A strong presence of logistics companies in the region will enable this industry cluster to expand as demand increases. Additionally, this increased demand may attract logistics companies from other areas of the US and Canada given the nature of the industry. A number of these companies have locations in multiple cities such as A.N. Deringer, who has 34 locations, including one in the Buffalo Niagara region.[22] Skulogix Inc. and Cornerstone Logistics also have locations in Ontario and Buffalo Niagara. Companies located elsewhere may choose to capitalize on the opportunity to expand their business in this region should NFIA increase their cargo operations.

The growth of the Canadian population and economy makes the Buffalo Niagara region a logical beneficiary of this development. One benefit to Canadian companies of this cross-border expansion is better access to the U.S. population. Some Canadian companies located in western Canada, such as those in Vancouver, may wish to expand into Buffalo Niagara and enter the bi-national market.

NFIA could capture some of the international shipping market that already exists in this area. Some local companies truck goods to New York City or Toronto daily to be shipped around the world via air cargo. This traffic could be diverted to NFIA should the airport secure cargo flights to some of the same international locations. In addition, many trucks traveling through the bi-national gateway enter into the US with full truck loads and return to Canada empty, or with less than a full load. Herein lays an opportunity for goods shipped into NFIA and send them into Canada in the space available in these trucks.

With a large pool of highly educated workers, a large number of manufacturing and retail trade companies, a heavy concentration of logistics companies, workforce development opportunities, access to world class education, and low labor costs, the Buffalo Niagara region is fully capable of supporting much larger cargo operations out of NFIA. Further, the continued growth of cargo operations over time combined with a partnership between the major research institutions and NFIA, the regional economy has the potential to benefit significantly.

Endnotes

1. Interview with Pat Wayland
2. Gardiner
3. Interview with Pay Wayland
4. U.S. Census
5. Statistics Canada
6. Belford
7. Belford
8. Glynn
9. Belford
10. King
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19. University at Buffalo
20. "Master Planning"
21. "Striving for Global Leadership"
22. "A.N. Daniger"

Figures, Sidebars & Quote Boxes

i. Lanarelli
ii. Belford
iii. Fetch
iv. Glynn
v. Fetch
vi. Kearns
vii. Interview Pat Wayland
viii. Kearns
ix. Interview Pat Wayland

Section 5

Cargo Facilities & Activity at NFIA

In a 2006 report, *Airport Choice Factors*, John Gardiner discusses airport infrastructure as having an impact on their ability to attract freighter operators. He states that "in order to make commitments, freighter operators [need] to know that the facilities and support infrastructure and services [are] in place and not just promised for the future."[1] The basic infrastructure needed for secondary airports to compete in the air cargo industry include: a runway with the capacity to support the landing of large aircraft, room for expansion, and cargo handing facilities. The Niagara Falls International Airport (NFIA) has each of these assets already available.

Figure 5.2: Image of Runway 10L/28R at NFIA

Source: Image Taken by Tom Kicior Jr (2006)

Runways

In New York State, there are nine runways approximately 10,000 feet in length, one of them being at NFIA.[2] A runway of this length can support the largest international cargo freighters. Runway 10L/28R is the longest of three runways at the Niagara Falls Airport. This runway is 9,825 feet long and 150 feet wide, with a maximum landing distance of 10,825 feet. Runway 10L/28R is equipped with both precision and non-precision approach devices; it is reinforced by steel such that it can support the Boeing 747, and has the capacity to land large military and commercial aircraft such as dual-tandem aircraft at 800,000 lbs gross weight.[3]

Figure 5.1: NFIA Competitor Runways Approx. Length

Airport	Runway Name	Runway Length
NFIA	10L/28R	9,825ft x 150ft
Pearson	15L/33R	11,050ft x 200ft
	05L/33R	11,000ft x 200ft
Hamilton	12-30	10,297ft x 197ft
JFK	13R/31L	14,572ft x 150ft
	4L/22R	11,351ft x 150ft
	13L/31R	10,000ft x 150ft
Newark	4L/22R	11,000ft x 150ft
	4R/22L	10,000ft x 150ft
O'Hare	14/32L	13,000ft x 200ft
	9R/27L	10,144ft x 150ft
	14L/32R	10,005ft x 150ft
Rickenbacker	5R/23L	12,102ft x 300ft
	5L/23R	11,937ft x 150ft
Stewart	9/27	11,818ft x 150ft

Source: Sandel, Inc. (2006)

Additionally, NFIA also has two shorter runways. Runway 06/24 is 5,188 feet long and 150 feet wide. This runway is primarily used by large and small aircraft—including light jet and turboprop—for cross wind operations. The third runway, used as a utility runway, 10R/28L is 3,973 feet long and 75 feet wide. This runway is parallel to runway 10L/28R, enabling the simultaneous operation of large military aircraft and general aviation. NFIA also has 13 taxiways connecting the runways and airport facilities.[4]

Affordability & Restrictions

As Figure 4.1 depicts, the runway at NFIA is not unique within the "bulls-eye," as there are several airports within a day's drive that have comparable runways. While these airports are in relatively close proximity, NFIA retains a competitive advantage by offering low landing fees and few restrictions, *see Figure 5.3*. For the second consecutive year, Toronto Pearson International Airport was ranked as having the second highest landing fees in an annual survey of Global Airports.[6] The airport ranking fifth in this survey was New York LaGuardia. Thus, an advantage of operating out of NFIA is that major cargo carriers can save substantially on landing fees.

Another important advantage of operating at the Niagara Falls International Airport is that there are no noise restrictions or curfews. Low restrictions are important for emerging cargo airports due to the nature of the international air cargo industry. Air freighter operators schedule flights at all times of the day to facilitate over-night and "just-in-time" delivery. Weather restrictions are also seldom an issue when operating out of NFIA. Positioned north of the Western New York Snow Belt, NFIA serves as the reliever airport for the Buffalo Niagara Airport (BUF) as NFIA rarely, if ever, closes due to snow.[7]

With an annual service volume of over 215,000 operations, NFIA is operating at a mere 19% of its airside capacity.[8] Secondary airports such as NFIA can offer predictable arrival times whereas airports operating at or near capacity, such as JKF, Toronto Pearson, and Chicago O'Hare rarely arrive on time. New York's JFK and Chicago's O'Hare have on-time arrival times that average only 69.2 and 66.3 percent of the time, respectively, *see Figure 5.4*.

Figure 5.3: Landing Cost Comparison Per Week*

Aircraft	JFK	Newark	Pearson	NFIA
737	$113,490	$132,210	$289,458	$21,060
767	$340,470	$396,630	$868,374	$63,180
320	$122,569	$142,787	$312,615	$22,745
747-200	$630,248	$734,206	$1,607,457	$116,953
AN124	$675,549	$786,980	$1,722,999	$125,360

Source: Niagara Falls International Airport. Niagara: A Natural Opportunity (2006)

*Based on three flights per week

Figure 5.4: On-Time Arrival and Departure Statistics by Airport

City (Airport)	Percent On-Time	
	Arrivals	Departures
Atlanta GA (ATL)	60.9%	65.3%
Buffalo NY (BUF)	72.4%	79.0%
Chicago (ORD)	66.3%	69.0%
Indianapolis IN (IND)	78.1%	85.8%
New York NY (JFK)	69.2%	75.4%
Newark NJ (EWR)	68.8%	77.6%
Pittsburgh PA (PIT)	73.9%	80.6%
Rochester NY (ROC)	66.6%	75.2%
Toledo OH (TOL)	70.0%	72.4%

Source: US Department of Transportation, "Air Travel" (2006)

Foreign Trade Zone

Foreign Trade Zones (FTZ) licensed by the Foreign Trade Zone Board, are designated areas where special customs procedures may be used. FTZs in the US are designed so that imported goods can bypass duties until they are ready to enter into the market. In New York State, there are 13 Foreign Trade Zones, two of which are in the Buffalo Niagara region: FTZ No. 23 and FTZ No. 34.[9] The old Bell Textron Building, adjacent to the airport, is currently designated as part of NFIA's Foreign Trade Zone No. 34. General-purpose zones, like the one at NFIA, are usually located in an industrial park, raw land, or in port complexes whose facilities are available for the use of the general public.

An advantage of using a FTZ is that cargo entering the US can bypass the usual entry procedure and payment of duties until the cargo undergoes one of many processes—including assembly, testing, processing, cleaning, repackaging, or repairing—and then enters the U.S. market or is exported. If the final product is imported into the U.S. market, customs duty and excise taxes are only due on that product. Located within FTZ No. 34 are two buildings—a

Benefits of a Foreign Trade Zone

Improved Cash Flow: An FTZ delays, reduces, or eliminates duties, freeing the monies for other needs.

Logistic Flexibility: Goods may be transferred from US ports of arrival to an FTZ, or between FTZs, duty free. If the products are re-exported, no duty is paid. Products made oversees for oversees markets may be brought into an FTZ for storage or consolidation with other products, allowing distribution of complete shipments to customers.

Duty Reduction: Duties are often higher for parts than they are for finished products. In an FTZ, therefore, a company can import parts, assemble a product, and then only be required to pay duty on the final product.

Lower Taxes: While in an FTZ, merchandise is not subject to U.S. duty or excise tax.

Weekly Entry: The Trade and Development Act of 2000 contains a provision permitting FTZ "weekly entry" procedures that can help zone users save time and money. Users may file entries and pay fees on goods moving through the zone once a week, rather than once a day or multiple times each week as had been previously.

No Time Constraints on Storage: Merchandise may remain in an FTZ indefinitely, whether or not it is subject to duty.[i]

multi-tenant building owned by the Niagara County Industrial Development Agency, and the Bell Complex building. Both facilities have space available for lease.[10]

NFIA's FTZ can be expanded to utilize to its full potential. Rickenbacker Airport in Columbus, Ohio, a former Air Force base is a great example of how FTZs can benefit a dedicated cargo facility. Since 2003, the Columbus Regional Airport Authority (CRAA) has been the grantee and operator of Foreign Trade Zone No. 138, encompassing nearly 5,000 acres at Rickenbacker. Their FTZ currently hosts more than 70 businesses, including several Fortune 500 companies, and accommodates two types of uses: industrial and aeronautical. Rickenbacker's FTZ has positively impacted the local economy through increased tax revenues, numerous job opportunities originating from industry clusters that naturally are drawn to airports, and other associated spin-off benefits. Airports that have a FTZ increase their competitive edge in the air cargo market. An increase in air cargo activity at NFIA would support an expansion in the acreage of its FTZ in order to make it more attractive to global logistics companies.[11]

Military Partnership

The NFIA maintains a partnership with the United States Air Force Reserve and New York Air National Guard. These entities share the burden of operating and maintaining the airport. The Air Force Reserve and Air National Guard are responsible for removing snow and ice from runway 10L/28R and taxiways A, A1, A2, and A3. The FAA requires that fire protection, and crash and rescue services be available in all airports where commercial and general aviation activities take place. The primary benefit of the military presence is their provision of fire protection, and crash and rescue services, at no charge to the airport. According to William Vanecek, Director of Aviation at the NFTA, by providing these services the military saves the NFTA about $5 million annually.[12]

Over and above these services, military units play a critical role in the economic health of the region. The Air Reserve Station employs nearly 3,000 people in the 914th Airlift Wing, the 107th Air Refueling Wing, and 865th Combat Support Hospital. Additionally, these military operations indirectly benefit the local economy by utilizing local contractors. The base's overall economic impact exceeds $133 million, making it an anchor in the Niagara Falls economy.[13]

Figure 5.5: Fire Fighters of the Niagara Reserve Airbase

Source: Niagara Falls Air Reserve Station (2006)

Current Activity at NFIA

To attract major cargo carriers to NFIA, the NFTA must prove that the on-site facilities are capable of handling cargo operations. Since May 2003, Kitty Hawk—a freight forwarding company based out of Dallas—has operated two flights per day, Tuesday thru Saturday, totaling 10 flights per week, out of NFIA. Kitty Hawk, Incorporated, is the holding company for subsidiaries including: Kitty Hawk Air Cargo, Kitty Hawk Cargo, and Kitty Hawk Ground. Kitty Hawk Air Cargo is primarily an all-cargo airline, and transports scheduled overnight freight and other time-sensitive cargo. Kitty

Figure 5.6: Image of Antonov 225 aircraft

Source: Associated Press, AP (1990)
Even the Antonov 225 aircraft, the largest aircraft ever mass produced, can be, and has been, accommodated by the runway at NFIA.

Hawk decided its local operation would be better served by shifting from Pearson Airport in Toronto, Canada to NFIA due to over crowding and time restrictions at Pearson. By operating at NFIA, Kitty Hawk brings instant credibility to the airport's cargo capabilities. The growth of Kitty Hawk's activity at NFIA is a good foundation for increasing cargo operations.

The Niagara Falls International Airport recently signed a contract to further facilitate growth in its air cargo operations. Niagara Cargo Park (NCP)—a consortium of Speed International, Inc., Vista Cargo International, Inc., and Atlas International Freight Forwarders USA Inc.—contracted with the NFTA on April 14, 2006 to develop, construct, market, and operate an air cargo facility at NFIA. The contract took effect on May 1, 2006. The terms of the agreement allow NCP two years to organize funding, market the facility to attract potential tenants, and begin construction of a cargo warehouse.[14] Speed can also provide trucking services for cargo that can be driven, in bond, directly to freight forwarding facilities in Canada after arriving at NFIA.

The Niagara Falls International Airport is also being considered by several air cargo, charter, and passenger flight companies to expand operations. Myrtle Beach Direct is planning to offer two charter flights per week from NFIA to Myrtle Beach, South Carolina beginning in March 2007. The expansion of charter flights will ultimately benefit from a planned new passenger terminal, which is set to begin construction once funding is secured. Additionally, there has been interest in new cargo flights from China.[17]

Moving Forward

The existing facilities at Niagara Falls International Airport are sufficient to begin expanded cargo operations. The current and expected activity at NFIA also demonstrate that the airport can capture a share of the growing cargo market. Establishing NFIA as a cargo hub will benefit the Buffalo Niagara region and can stimulate the economy throughout the bi-national region.

Endnotes

1. Gardiner
2. Sandel, Inc.
3. Niagara Falls International Airport
4. Interview with Bob Stone
5. Sandel, Inc.
6. The Air Transport Association of Canada
7. Air Cargo Development: Niagara Falls International Airport
8. Air Cargo Development: Niagara Falls International Airport
9. U.S. Customs. "Foreign Trade Zones."
10. Niagara County Center for Economic Development
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12. Interview with Bill Vanacek
13. United States Armed Forces
14. Contract Between Niagara Cargo Park and NFTA
15. Contract Between Niagara Cargo Park and NFTA
16. Niagara Cargo Park. A New Choice for a North American Cargo Facility
17. Fink, James

i. U.S. Customs, U.S. Customs and Border Protection

Section 6

Competitive Landscape

In response to the rapid growth occurring in the air cargo market, the landscape of North American airports vying for cargo activity has grown increasingly competitive. In the last two decades, dedicated cargo airports have emerged as a result of the growth of integrated carriers, third party logistics providers, and congestion at primary passenger gateways. Traditional coastal gateways that have been the preferred air cargo point of entry/departure are playing a diminished role in serving cargo that is not dependent on inter-line traffic. While the potential for the Niagara Falls International Airport (NFIA) to enter this market exists, a detailed understanding of the strengths and weaknesses of its potential competitors must be considered.

This section will examine the constraints and opportunities currently experienced at geographically comparable major hubs and inland ports. Traditional gateway hubs that serve similar markets to NFIA include: John F. Kennedy International Airport in New York City; Toronto Pearson International Airport in Ontario, Canada; Newark International Airport in New Jersey; Chicago O'Hare International Airport in Illinois; and Logan International Airport in Boston, Massachusetts. Identified inland ports that will be analyzed include: Hamilton International Airport in Ontario; Stewart International Airport in Newburgh, NY; Indianapolis International Airport in Indiana; Cincinnati-Kentucky Northern Kentucky Airport in Kentucky; Toledo Express International Airport in Ohio; Willow Run Airport near Detroit, Michigan; and Rickenbacker International Airport in Columbus, OH.

Figure 6.1 - Expansion Space at Gateway Airports

Airport	Room for Expansion Onsite	Room for Expansion Beyond Existing Footprint	Comments
Pearson	None	None	None
JFK	None	None	None
Newark	Limited	Limited	On-site expansion proposals are resisted by public
Logan	Limited	Limited	On-site expansion proposals are resisted by public
O'Hare	None	Limited	Off-site expansion proposals are resisted by public

Source: Official Airport websites and local news publications (2006)

Gateway Airports

While gateway airports do not command the same dominance of the market as in the past, they will likely continue acting as important cargo hubs. The leading competitive advantage gateway airports possess is their high levels of passenger activity. As noted in Section One, a significant share of domestic and international air freight is transported in the underbelly of passenger flights. As these areas remain hubs for many international and domestic passenger airlines, with hundreds of regularly scheduled flights from around the globe daily, major U.S. airports still dominate a significant segment of the air cargo market. High concentrations of freight forwarders, custom house brokers, federal customs agents, and other industry professionals, as well as name recognition within the air cargo industry, will sustain airports like JFK, Newark, Logan, O'Hare, and Pearson as major cargo destinations. Yet, as cargo's dependence on inter-line traffic transport diminishes, these gateway airports are becoming less attractive for cargo-only operators.

Spatial Constraints

Many east coast and major inland airports are currently operating at or near capacity and lack room for expansion to meet growing demand. According to aviation research consultant Tom Phillips, "[t]hey're all maxing out, not just their runway capacity, but in their ability to build new facilities."[1] As illustrated in

Roadway Congestion

The slow movement of goods around major airports by road transport - resulting from congested highways and the lack of on and off-site expansion room for a growing market - is beginning to push air cargo operations away from traditional gateways toward lesser known inland airports. The geographic positioning of gateway airports, which has historically placed them in close proximity to large metropolitan areas, severely impacts their ability to provide road access to/from airport facilities without delay, *see Figure 6.2*. Because goods traveling by air are almost exclusively moved to and from the airport by truck, these airports generally do not afford the seamless intermodal movement of goods that the increasingly competitive cargo market requires.

Figure 6.2: Ease of Access to Highways for Gateway Airports

Airport	Easy Access to Highways	Comments
Pearson	Yes	401 is often congested
JFK	Yes	Van Wyck is often congested
Newark	Yes	New Jersey turnpike is often congested
Logan	Yes	Massachusetts Turnpike is often congested
O'Hare	Yes	190 link to major expressway

Source: Official Airport websites and local news publications (2006)

Secondary Airports

As technological innovations allow aircraft to fly further distances, and as cargo operators become frustrated with lengthy delays, high landing fees, and inconvenient noise and time restrictions, the cargo industry is shifting toward smaller, secondary airports that provide comparable or better access to ground destinations and less time on the ground for aircraft. Non-traditional inland cargo airports are also able to capture a share of the market because trends indicate that the cargo market is beginning to shift away from relying on the belly capacity of passenger flights to ship goods in favor of dedicated air freight transport.

One significant trend influencing this shift is the emergence of low-cost airlines. Because their profits are dependent upon short turnaround times, these carriers are unable to carry cargo due to unloading and loading delay times. Further, as the airline industry has demonstrated in recent years, major airlines are increasingly forced to follow trends of low-cost airlines to stay competitive, lessening their air cargo activities.[2]

Trends that project passenger flight levels to increase over the next 20 years, and the seeming inability of older large metropolitan airports to handle both cargo and passenger increases, offer NFIA an opportunity to significantly increase its air cargo operations. These conditions are ideal for NFIA to aggressively market itself to carriers and freight forwarders as a strategically placed, cheaper, easily accessible, more efficient cargo destination alternative, and ensure that this currently underutilized community asset becomes an anchor for regional commerce.

Secondary Airports with Room to Expand

Many underutilized airports already recognize the business opportunities created by overcrowding at large metropolitan airports. Some have been more successful than others at capitalizing on these opportunities by emphasizing factors such as strategic location, free trade zones, easy-on easy-off highway access, expansion room, and an organized and focused lead agency that can play a prominent and "difference-making" role in the advancement of the airport, *see Figure 6.3*.

Figure 6.2: Secondary Airports with Room to Expand

Airport Name	Free Trade Zone	Expansion Room Size	Highway Access	Customs Clearance Capabilities	Noise and Curfew Restrictions	Lead Agency
Hamilton International Airport	Export Distribution Centre, the Canadian equivalent of a Foreign Trade Zone. Size unknown.	40 acres under Airport Control. 5800 acres of surrounding land suitable for long term development. Not under airport control and lacks public infrastructure.	Immediate secondary highway access only. No direct link with the QEW.	24 Hour	None	Tradeport International Corp.-private organization working on behalf of Hamilton government.
Stewart International Airport	None	120,000 existing sf of cargo space being expanded on North and South side of airport. Business parks in nearby Town of Windsor experiencing infrastructure upgrades in anticipation of new business.	No direct access currently. Link to two major interstates via ramp construction to be completed at end of 2007.	24 Hour	None	Privatized lease signed in 1999 to National Express Group PLC. Stewart Regional Alliance, an influential group of business people, also comes together in 2001 to promote revitalization of the airport.
Indianapolis International Airport	4870 acres encompassing the whole airport	50,000 sf of existing warehouse space, with zero percent being occupied.	As part of the airports n overhaul, new parkway connection to Interstate 70 being constructed with completion in 2008 greatly increasing access	24 Hour	None	Indianapolis Airport Authority, created in 1962, consists of 11 members, 8 of which are have a vote and are appointed by the mayor and 3 representing local counties have no vote. IAA is responsible for 6 airports in metro area.
Cincinnati-Northern Kentucky International Airport	602 acres in Clermont County (45 minutes away)	Currently 250,000 sf of warehouse space.	Interstate 275 runs directly adjacent to the airport, allowing for easy-on, easy-off access to nations highway grid.	24 Hour	None	Kenton County Airport Board, consisting of prominent civic and business leaders from the region. Creates policy that airport management carries out.
Toledo Express Airport	Yes. Size not available	400,000 sf of cargo space being planned for campletion in 2007. Currently 60,000 sf of warehouse space on-site, which is fully occupied.	Ohio turnpike runs directly adjacent to the airport, allowing for easy-on, easy-off access to nations highway grid.	24 Hour	None	Toledo-Lucas County Port Authority coordinates the operations of water, air, rail, and surface transport for the economic benefit of the region.
Willow Run Airport	Currently none on site. Proposed addition to 18 FTZ zones around Detroit to include creation of 2,340 acres FTZ for airport. Decision pending early 2007	There is ample room for expansion, however could be threatened by local residents	Quick access to US 12 linking traffic with I 94. From there, many other quick expressway options to travel in any direction.	24 Hour	None	Wayne County Airport Authority, created in 2002. Responsible for operating both Detroit Metropolitan Airport and Willow Run Airport. A seven member Board of Directors. Four appointed by the County Executive, two by the Governor, and one by the Wayne County Commission.
Rickenbacker International Airport	Approximately 5,000 acres. can accommodate two types of uses - industrial and aeronautical	Capable of handling an additional 9,000 acres of growth	Easily accessible from Interstates 270, 71, and 70, and from highways 23 and 33	24 Hour	None	Columbus Regional Airport Authority, an independent government agency, responsible for managing two other airports other than Rickenbacker.
NFIA	Approximately 100 acres adjacent to airport for general purpose uses.	Approximately 835 acres of local industrial park space available for development and approximately 130 acres on parcels directly adjacent to the airport.	Minutes away form LaSalle Expressway, a secondary highway with quick access to the NYS thruway and Canadian national highway grid.	24 Hour	None	NFTA, which has recently removed itself from waterfront development in Buffalo, has refocused itself on developing NFIA to capture a share of the air cargo market. It is the only regional governing body in WNY.

Source: Official Airport websites and local news publications (2006)

Identifying Niche Markets

In addition to these factors contributing to the success in capturing air cargo market share, non-traditional airports also identify and capture niche markets formerly dominated by large airports and have built the appropriate facilities to accommodate those operations. Toledo Express Airport in Ohio, for example, recently developed a cold storage perishables center for carriers transporting roses from Ecuador to bypass Miami's congested airport.[3] Toledo managed to capture a market formerly held by a larger traditional cargo gateway competitor and is now the storage and distribution center for those operations.

Hamilton International Airport (HIA) in Canada recently set goals to become both the biggest Canadian hub of the air cargo market and one of the five busiest passenger airports in Canada. HIA projects that if its current growth continues, it will successfully reach its cargo activity goal of 500,000 metric tonnes (551,115 tons) by the year 2020. Millions of dollars were spent on runway improvements, upgrades to the instrument landing system to improve landing capabilities during inclement weather, and road infrastructure improvements to ease access to the nation's highway grid.

Stewart International Airport, located 55 miles north of New York City in Newburgh, New York, realized its unique position of capturing not only overflow air cargo activity from the larger, well known but crowded, airports of New York City, but also positioned itself as a cheaper, easier alternative as a passenger facility. With the traditional airports unable to deal with the surging cargo and passenger markets, Stewart realized the potential of its location in proximity to large east coast markets and was able to position itself in the market through necessary infrastructure upgrades.[4]

NFIA enjoys many of the same assets that many of its potential competitors in the air cargo market do. Little has been done to date though, to leverage these assets. As other airports realize their potential and develop operations according to a strategic plan with focused and dedicated leadership, inactivity at NFIA diminishes the chance of making it a fully utilized community asset.

Hamilton International: A Closer Look

Based on research on Hamilton International Airport (HIA) and Pearson International Airport (YYZ), initial findings suggest that Hamilton poses a much greater threat as a competitor than Pearson on account of the type of cargo handled at each of the airports. The bulk of cargo at Pearson is carried in the underbellies of passenger flights, while HIA focuses on cargo only operations. In fact, HIA is the largest integrated courier airport in all of Canada.

Hamilton International Airport started as an air force training station in October 1940 and became a civilian airport in 1964 under the control of the Canadian government. In 1994, Canada's federal transportation agency, Transport Canada, passed legislation intended to remove itself from ownership capacity from local and regional airports. At that time, ownership was transferred to the regional Hamilton-Wentworth government. Realizing that it had no

Year	Total Passengers
1999	22,561
2000	243,205
2001	553,555
2002	845,960
2003	1,041,204
2005	*500,000**
2007	*1,245,000**
2009	*2,335,000**
2011	*3,126,000**
2013	*3,631,000**
2017	*3,998,000**
2027	*4,785,000**

Source: Hamilton International (2004)

Year	Tonnes	Short Tons
1990	8,696	9,586
1991	7,575	8,350
1992	21,300	23,479
1993	22,300	24,581
1994	36,000	39,683
1995	60,000	66,138
1996	72,000	79,366
1997	77,000	84,877
1998	80,016	88,202
1999	86,698	95,568
2000	91,445	100,880
2001	83,756	92,325
2002	92,321	101,766
2003	93,000	102,514

Source: Hamilton International (2004)

experience running an airport, the Hamilton government conceded operational control to the private Tradeport International Corporation on July 6, 1996. Tradeport operates the airport on behalf of Hamilton through its subsidiary, Hamilton International Airport Limited.

A great deal of HIA's success is attributed to its status as the domestic Canadian hub for both UPS and Purlator Courier. These two freight operations act as anchor tenants for HIA that help brand the airport as a viable option as an air cargo destination. Purlator Courier, Canada's largest dedicated air express fleet, operates a 93,359 SF sorting facility while UPS's facility is 47,800 SF respectively. In addition, CargoJet Canada provides overnight air cargo services to 12 Canadian cities out of Hamilton.

Hamilton is also striving to be a regional commercial and general aviation airport, although general aviation is less essential for airport economic stability since general aviation levels often mirror the peaks and valleys of the overall economy. Also, as the airport becomes busier with larger planes, HIA officials are already seeing general aviation shift to even smaller area airports that have less congestion.

HIA has a goal of becoming one of the five largest Canadian airports for commercial activity, achieving passenger levels approaching 5 million per year as indicated in Figure 6.4.

Recent HIA Upgrades and Other Strengths

On November 26, 2004, the 2 lane Highway 6 spur was completed connecting HIA to Highway 403 and providing greater access to the airport for all traffic, specifically trucks involved in cargo movement. There are already plans to increase the capacity of Highway 6 by upgrading it to a divided 4 lane highway with completion targeted for sometime in the 2010's. More recently, as of April 10, 2006, Highway 6 was to see 27 million dollars of improvements including median barrier and lighting, noise barrier, and consolidation and improvements of interchanges.

In accordance with the HIA Master Plan of 2004, on February 18, 2005 it was announced that 1.5 million dollars would be invested to upgrade the instrument landing system (ILS) to category 2 status, which increases the visibility and usefulness of the runway during inclement weather and helps lower lost revenue to airlines by $750,000 per year by allowing flights to stay on schedule an increased amount of the time. Category 2 status became official on March 3, 2006.[5]

On March 9, 2006 a 1.3 million dollar expansion/reconfiguration was announced for the International Arrivals space, doubling the accommodations for trans-border and international business. This is also in accordance with the 2004 HIA Master Plan.

HIA is located in the Golden Horseshoe, which represents a market of almost one quarter of the Canadian and over 60% of the Ontario population.

HIA shares many of the advantages that Niagara Falls International Airport has, including: 24-7 operations; low landing fees; absence of landing restrictions and peak period charges; lower labor costs compared to larger urban centers; and 24 hour customs capabilities. HIA has two runways, 12-30 which is 10,297 ft long and 06-24 which is 6,000 feet long. The length of runway 12-30 ensures that any aircraft in the world can land at the airport. HIA has an airfield capacity of 265,000 operations per year, or an average of 726 per day. As of 2003, 65% of flight operations involved passenger operations and 35% involved cargo operations. As of 2004, there were approximately 40 air cargo flights per day to/from HIA. These levels allow for the possibility for significant growth to occur at the airport in terms of flight activity.

Hamilton has an inter-modal system already in place. The city and airport are served by Canada's two largest rail lines, Canadian National and Canadian Pacific, and is also the busiest Canadian port in the Great Lakes system, handling 13 million metric tons annually, predominantly steel.

Remaining HIA Obstacles

Land for immediate commercial development around the airport is limited, with only 16.2 hectares (40 acres) available under control of the airport. Land is also limited for terminal expansion and airport support functions (parking, groundside access). HIA is surrounded by 5,800 acres of land that has the potential for development. Most of the land is rural and is zoned for agricultural use. However, lands to the north and west of the airport are considered unsuitable for commercial development because of a lack of airside infrastructure, civil infrastructure, adequate transportation access, and poor terrain. The rest of the land referred to in the 5,800 acre area is considered suitable for medium to long term development although the majority of it lacks public infrastructure, airside infrastructure, and adequate transportation access as well as direct control by the airport.

HIA is also in need of runway improvements. Runway 06-24 needs repaving on several sections and needs to be expanded to 9,000 feet to better accommodate larger aircraft attempting to land in cross wind conditions. 06-24 also needs an instrument landing system. Also, both 12-30 and 06-24 need parallel taxiways to eliminate backtracking delays. Planes currently have to taxi back down the runway after landing, causing inefficiency in the flow of traffic and the amount of time needed between landings/takeoffs. As air traffic increases at the airport, this will become a greater source of delay for passenger and cargo activity.

HIA currently has no direct or good indirect link with the QEW. Although improvements have been made in connecting the airport to Highway 403 via the Highway 6 spur, there still remains a lack of adequate access to Canada's national arterial highway system. Several other costly alternatives are currently being considered to address this issue. One, the Red Hill Valley Parkway, is scheduled for completion in 2007.[6] This will add a roadway option to those traveling to and from HIA to connect to the national roadway. Others are projected to be completed before the early 2010s.

NFIA's Advantage over its Southern Ontario Counterparts

A 2005 survey of airports regarding cargo operations found that Canadian airports close to US borders face considerable legislation disadvantages in competing with nearby US border regions airports. Findings of this survey suggest that 86% of Canadian airports feel disadvantaged by legislation compared to 15% of US airports. A major reason for this has to do with the directional imbalance of the air cargo industry. Direct return journeys can be unprofitable for scheduled freighter service when return legs have little demand. Thus, scheduled freighter services are forced to operate triangular routes to adjust for the imbalance. This is particularly troubling for Canadian airports as fifth freedom rights are required for them to pick up cargo in the US. As the US provides substantial more opportunities for third-party cargo points to fill the load of backhaul air freight trips, Canadian airports struggle to compete. This provides an enormous opportunity for NFIA to serve the burgeoning Southern Ontario market as it is located literally minutes from the border and can provide a lucrative advantage for return trips of international cargo by filling freight from the many cargo airports in the US.[i]

Implications for NFIA

While NFIA holds several distinct advantages over Hamilton International, the momentum and growth in Hamilton suggests that NFIA must act resolutely in order to establish itself as the all-cargo airport of choice for the Golden Horseshoe. The establishment of NFIA as the premier international cargo-focused airport in the bi-national region should allow Hamilton to continue growing as a port for Canadian domestic freight and commercial passenger traffic.

Endnotes

1. Karp #3
2. The International Air Cargo Association
3. Patch
4. Stewart International Airport. "Stewart Takes Off."
5. MyHamilton
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Figures, Sidebars & Quote Boxes

i. Gardiner

Section 7

Expansion Room

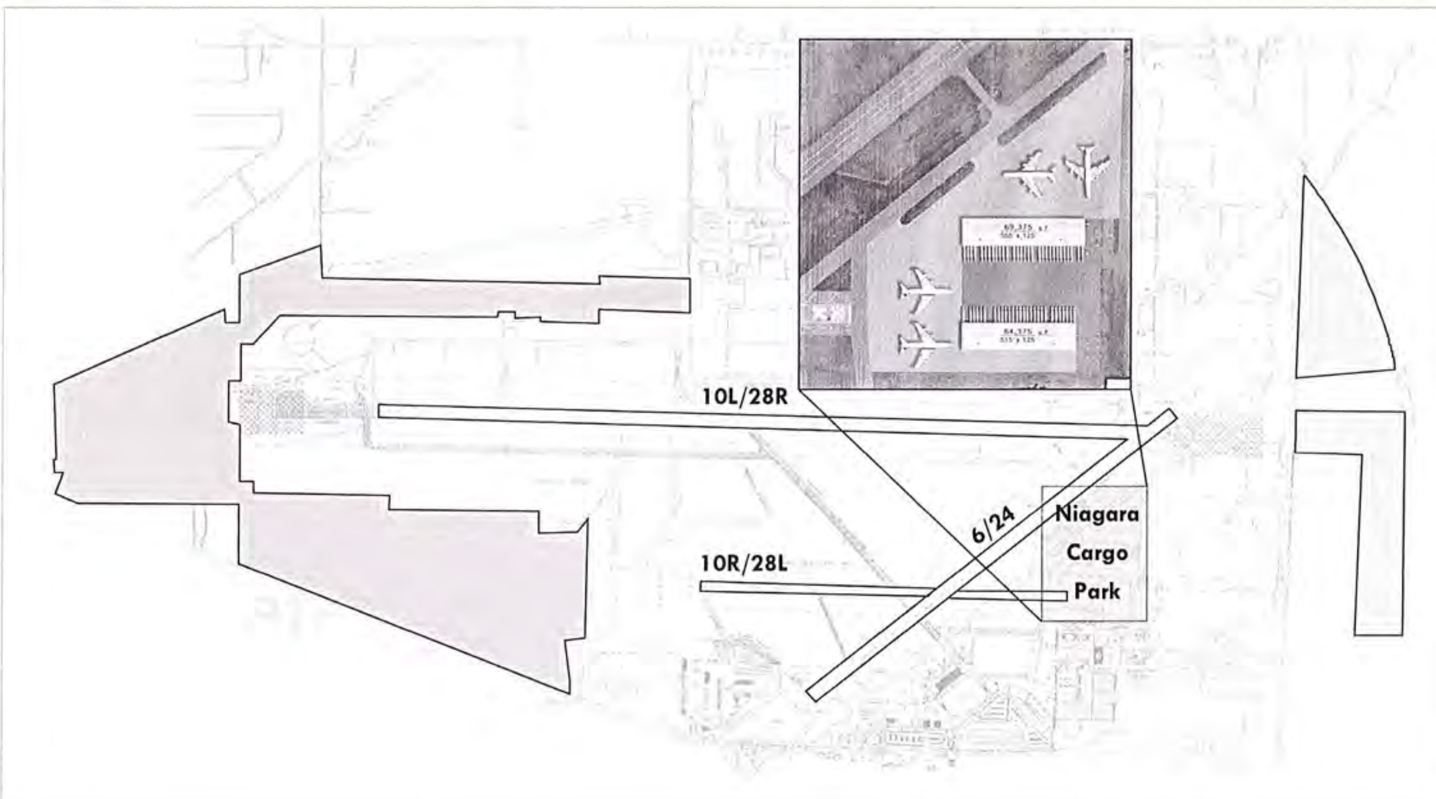
Onsite Development Room

The Niagara Falls International Airport (NFIA) has a unique opportunity for the expansion of passenger and cargo operations because there is a significant amount of on-site space available for immediate growth and a large portion of additional land for future development.

The United States Army has a base on the southwest corner of NFIA and expressed interest in relocating to a proposed 32 million dollar Regional Readiness Center to be built within the Niagara Falls Air Reserve Station on the northern side of the airport. The new facility is expected to open in late 2007. If this move occurs, the 22 acres of land, 68,000 square feet hanger, and thirteen other buildings the U.S. Army currently occupies would transfer to the Town of Niagara. This would allow the sale or lease of this property to interested developers or possibly the NFTA. With the completion date for new Regional Readiness Center in late 2007 or 2008, redevelopment of the current U.S. Army base is not expected to occur until sometime between 2008 and 2011.[1]

Additional space for expansion is available if NFTA closes runway 10R/28L - the 3,973 foot general aviation runway. All of the aircraft currently using this runway would be able to utilize either of the other two runways at NFIA. Closing runway 10R/28L would open fourteen acres of additional space for development. Closing the runway also allows for development by Niagara Cargo Park on the parcel between runway 10R/28L and the former Saint-Gobain property.[2]

Figure 7.1: Proposed Niagara Cargo Park Site, and Possible Property to Acquire

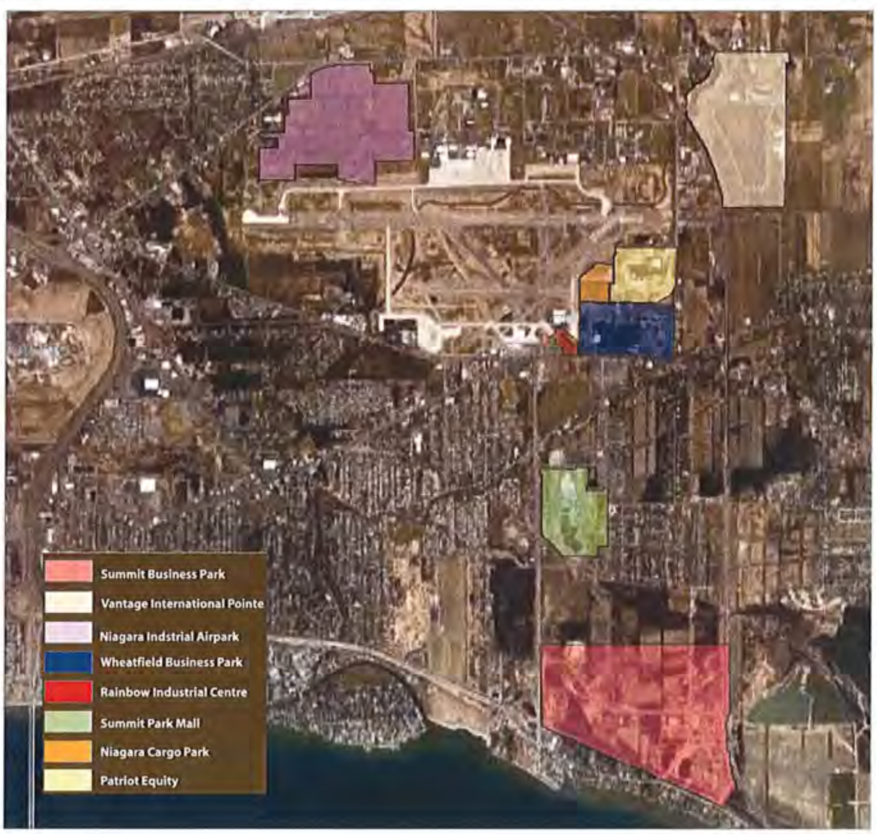


Source: Air Cargo Development (2003)

Graphic in Upper right hand corner is the proposed Niagara Cargo Park Site. Grey Outlined areas represent possible property to acquire in the future.

There is space at NFIA for a new passenger terminal to replace the current outdated terminal that cannot efficiently handle the potential increase in passenger traffic from charter flight activity. Planning for the new terminal is complete, with an expected cost of $23 million. $19 million of funding is secured for a new 68,000 square feet, multi-level terminal. This facility will feature jet-way boarding and modern amenities to allow for efficient processing of passengers through customs, security screening, and baggage claim. An increase in parking space will also be part of the project to handle the increase in passengers. The new terminal is expected to take ten months to complete once complete financing is in place; this will free up additional expansion space where the current terminal is located.[3]

Figure 7.2: Possible Expansion Room



Source: Google Earth (2006)

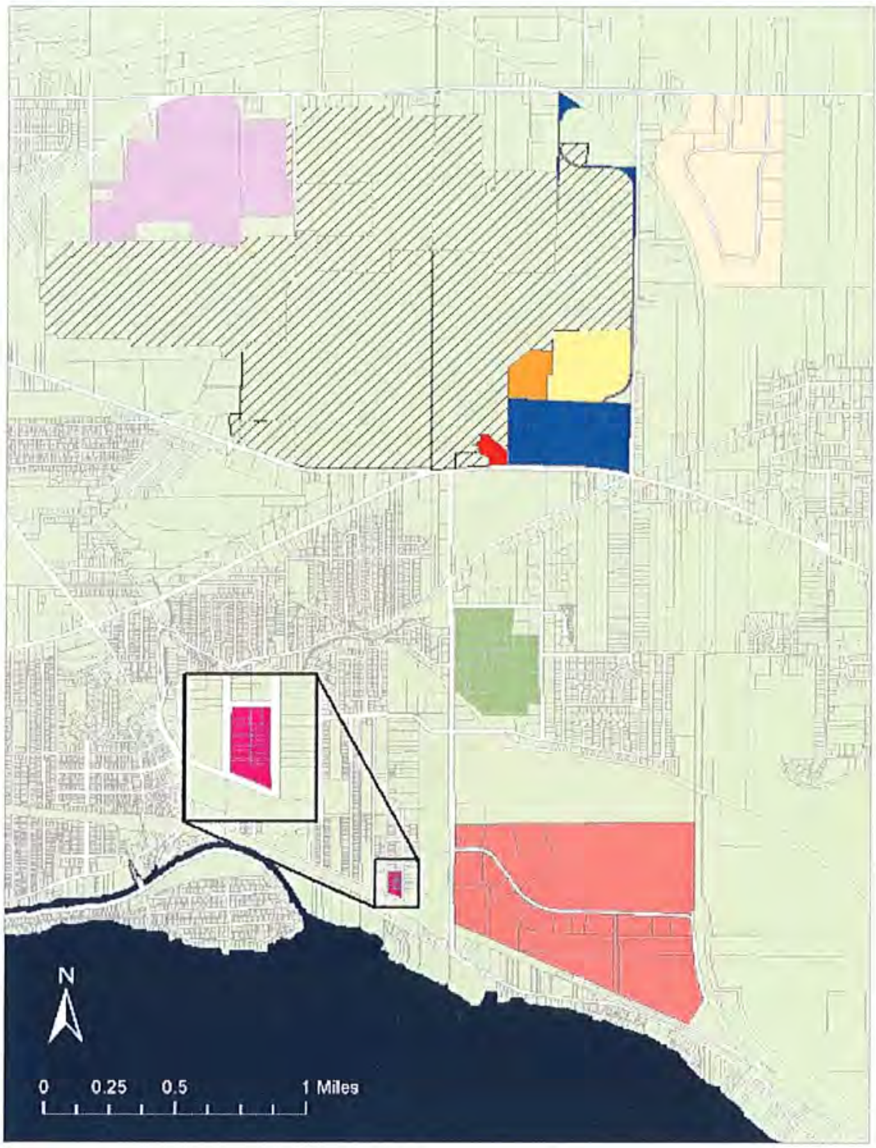
Development on-site is also set to occur in the form of a new apron to accommodate the cargo warehousing space being built by Niagara Cargo Park. As part of the contract between Niagara Cargo Park and the NFTA, NFTA agreed to provide funding for the design and enhancement of apron areas to support Niagara Cargo Park cargo operations. The NFTA will also provide funding for the design and expansion of a fuel farm to meet the needs of the increased flight activity.[4]

There is plenty of space to accommodate the expansion plans for a fuel farm, new apron, and new passenger terminal and also meet the needs for future expansion. In addition to the space available from closing runway 6/24, the possible relocation of the U.S. Army base, and the new passenger terminal create an additional 183 acres of land for development. This land is currently privately owned, but is mostly vacant and underutilized. Within a 2-mile radius of the airport there is also an abundance of vacant land. Currently over 2400 acres of property are currently classified as vacant within this area providing additional development opportunities.[5] There are also a number of properties adjacent, and in close proximity to, the airport that are in position to handle any additional growth the airport is likely to create related to air-cargo services and other related industries.

Off-Site Opportunities

As the Niagara Falls International Airport expands its cargo operations, access to new markets will open up. This opportunity is of interest for existing manufacturing and industrial companies looking to take advantage of this access, as well as open the door for high tech industry in this area. There are presently a wide-range of vacant buildings, vacant sites, and industrial parks in position to capture this growth.

Figure 7.3: Frontier Property



Source: GIS Dataset

Adjacent Properties

Immediately surrounding NFIA are four unique development opportunities. To the northwest of the airport sits the Niagara Industrial Airpark. The airpark is zoned industrial and comprises 217 acres of vacant land ready for development. Utility infrastructure is in place and access to the Interstate 190 is a mere half mile away.

On the southeast side of the airport sits the former Saint-Gobain abrasives manufacturing plant. This property was recently purchased by Patriot Equities for $2 million. The property contains ten buildings with 625,372 square feet of space, 532,078 square feet of manufacturing space, and 49,134 square feet of office space. All told, the property covers 55 acres, with only fifteen developed and 40 vacant. Patriot signed a leaseback agreement with Saint-Gobain for a mere 150,000 square feet to allow them to continue their operations, thus there is over 475,000 square feet available for leasing. This investment by Patriot Equities may be a sign of things to come for the area; Michael Kolar of Patriot Equities stated "more than anything else, you are talking about 40 acres of open land sitting right next to an airport."[7]

Just south of the Saint-Gobain facility is the Wheatfield Business Park. The park is zoned industrial and has 830,000 square feet of rentable space, with high ceilings ranging from nineteen to thirty feet.[8] There are an additional ten acres of undeveloped land within the park available for development. The former Bell Aerospace facility is in the park and contains 100,000 square feet of manufacturing space, 250,000 square feet of warehouse space, and 100,000 square feet of office space. Ceiling heights are fourteen feet in the manufacturing space and thirty feet in the warehousing space.[9]

On the west side of the Wheatfield Business Park sits the Rainbow Industrial Centre on Niagara Falls Boulevard right next to the airport entrance. The centre has 6,250 square feet of space available (5,250 square feet of manufacturing space and 1,000 square feet office space) zoned manufacturing and light industrial use. The building has eighteen foot ceilings and is just over two miles from Interstate-190. The property has also been designated a U.S. Foreign Trade Zone.[10]

Being adjacent to the airport, each one of these properties offers unique development opportunities that provide direct access to the airport facility, however the recent deal between the NFTA and Niagara Cargo Park may inhibit any of these opportunities short-term. To help protect Niagara Cargo Park economically, NFTA granted them the exclusive right to build air cargo facilities on land adjacent to the airport. This agreement is capped at a maximum term of seven years and can expire sooner if Niagara Cargo Park's warehouse reaches capacity.[11]

Industrial Parks

Looking beyond the adjacent properties, there are many other development opportunities in the area. The Town of Wheatfield offers two additional industrial business parks: Summit Business Park and Vantage International Pointe. The Summit Business Park, located approximately two miles from the airport, has 130 acres of space available for development. The park allows easy access to the New York State Thruway via Interstate 190. On the east side of the park is rail access via a CSX rail line.[12] Vantage International Pointe, located on the northeast side of the airport, has 158 acres zoned industrial, and is mostly vacant land. The site is "shovel ready" with infrastructure already in place: roads, water lines, and sewer lines, storm drains, and rail access. The park has also been designated a U.S. Foreign Trade Zone. Vantage International Pointe is also located only four miles from Interstate 190, providing efficient access to the New York State Thruway system, as well as Canada via the Lewiston-Queenston Bridge.[13]

Other Available Properties

Two other properties present unique development opportunities to take advantage of the growth of air cargo at Niagara Falls International Airport - the Summit Park Mall and Frontier Commerce Center. The Summit Park Mall contains 300,000 square feet of vacant commercial space. This space could be rezoned to promote future growth. This building is also less than two miles from the Interstate 190. The Frontier Commerce Center provides 15,000 square feet of light industrial space located on the LaSalle Expressway, one and one-half miles from Interstate 190. The Center previously served as a manufacturing building and has twenty foot ceilings.[14]

With increasing airport activity in the form of air cargo and air charter, the area surrounding NFIA provides opportunities to attract and grow new businesses with land and buildings in place and ready to handle this growth. The presence of this much undeveloped space and buildings ready for redevelopment so close to an airport is rare and will serve NFIA in both the long and short term.

Endnotes

1. Purdy
2. Interview Bill Vanecek
3. Interview Bob Stone
4. Interview Bill Vanecek
5. GIS Data
6. Niagara Falls International Airport
7. Fink #2
8. Niagara Falls International Airport
9. Niagara County Center for Economic Development
10. Niagara County Center for Economic Development
11. Interview with Bill Vanecek
12. Niagara County Center for Economic Development
13. Niagara Falls International Airport
14. Niagara County Center for Economic Development

Section 8

Potential Economic Benefits

Regional Economic Benefits of Air Cargo

Given the substantial role that air cargo plays in the production and transportation processes of the global economy, many regions both in the U.S. and around the world are formulating economic development strategies around air cargo facilities. Regions with a strategic location and the ability to leverage their resources can realize extensive and far-reaching social and economic benefits from air cargo. On the surface, this translates into the creation of many jobs directly involved with activities in and around the airport. In a much deeper sense, however, air cargo can be a key to opening doors to global economic opportunities of the new economy.

Direct Job Creation

The range of interrelated services converging in the air cargo industry requires a substantial number of employees for transporting, handling, and processing air freight. These jobs can include customs brokers, freight forwarders, integrators, truck drivers, airport operators, maintenance technicians, various logistics professionals, and suppliers. These employees earn relatively high wages and have growth potential with increased activity at the airport.

Figure 8.1:Image of Cargo Handlers

Source: Associated Press AP (2006)
Workers from Alaska Airlines loading cargo into a Boeing 737-400 Cargo Jet in Anchorage Alaska

The experiences of other U.S. cargo-focused airports indicate that job growth from cargo-related activities in and around the Niagara Falls International Airport (NFIA) could be in the thousands.

Every time a cargo integrator lands at the Vancouver International Airport from the US, more than 200 hours of employment are generated. Over a year, this daily service generates 40 person years of employment.[i]
-Vancouver International Airport Economic Impact Study (2004)

An economic impact study on Rickenbacker International Airport showed that 905 people were employed in jobs directly related to cargo operations at Rickenbacker in 2004. Accounting for $29.3 million in payroll, this includes workers at the nine cargo airlines (three serviced on an ad hoc basis), twelve freight forwarders operating at Rickenbacker, and employees of ancillary cargo activities such as freight handling, administration, fueling, and aircraft maintenance.[1]

Indirect Job Creation

While the potential to create nearly 1,000 well-paying jobs and strengthen the regional logistics industry is enticing, this is only the gravy of increased air cargo activity at NFIA. The real meat of air cargo lies in the indirect impacts generated through increased productivity of existing regional firms and the potential to draw air cargo-dependent companies to the Buffalo Niagara region. Although these less tangible benefits are difficult to project, the rewards can be great, as they extend to a range of industries.

The presence of FedEx at Memphis International airport, as an extreme example, is credited with drawing over 130 foreign-owned firms with 17,250 employees and manufacturing and distribution centers for many companies, including Nike, the Disney Store, and Apple Computers.[2]

Industries that see proximity to an air cargo facility as advantageous tend to be the types of companies that most U.S. regions seek to attract. High-technology electronics, aeronautics, pharmaceuticals, medical devices, and advanced manufacturing companies, specifically, value access to air freight centers in their site selection processes. While the presence of air cargo facilities alone will not attract these firms to a region, the lack of access to air cargo facilities can eliminate some communities from their list of possible relocation sites.

Air Cargo as an Economic Catalyst for Buffalo Niagara

NFIA has a long way to go before it can experience the same results as Rickenbacker. The momentum created by current cargo activity by Kitty Hawk - and the additional services of Niagara Cargo Park in the near future - indicates that greater economic benefits are on the horizon. While it is impossible to predict the exact impact NFIA will have on the Buffalo Niagara economy, comprehensive regional economic development planning could maximize these benefits. Increased air cargo operations at NFIA could affect the entire regional economic landscape and spark increased development and productivity of some of the key industrial clusters within the Buffalo Niagara region. The

Figure 8.2: Employment within Aprox. Three Miles of Comparative Cargo Focused Airports

	Piedmont Airport (NC)		Rickenbacker Airport (OH)		Alliance Airport (TX)	
Construction	1,911	5%	2,092	7%	4,018	8%
Manufacturing	9,009	22%	6,674	23%	13,600	28%
Food	*626*	*2%*	*176*	*1%*	*1,616*	*3%*
Apparel/Textiles	*2,351*	*6%*	*500*	*2%*	*35*	*0%*
Building Products	*1,226*	*3%*	*745*	*3%*	*850*	*2%*
Chemicals/Pharmaceuticals	*2,361*	*6%*	-	*0%*	*158*	*0%*
Plastics	*303*	*1%*	*669*	*2%*	*628*	*1%*
Machinery	*301*	*1%*	*873*	*3%*	*222*	*0%*
Computers & Electronics	*92*	*0%*	-	*0%*	*5,942*	*12%*
Automotive/Parts	*17*	*0%*	-	*0%*	*474*	*1%*
Aircraft/Parts	*67*	*0%*	*26*	*0%*	*805*	*2%*
Other	1,665	4%	3,685	13%	2,870	6%
Wholesale Trade	2,592	6%	2,857	10%	5,000	10%
Retail Trade	4,756	12%	3,755	13%	1,519	3%
Transportation & Logistics	1,995	5%	4,542	16%	10,803	22%
Professional Scientific & Technical Services	50	0%	-	0%	287	1%
Management	5,276	13%	-	0%	2,136	4%
Accommodations	35	0%	30	0%	330	1%
Food Services	1,052	3%	612	2%	1,272	3%
Aircraft Maintenance Repair Overhaul	1,800	4%	-	0%	20	0%
Other	11,762	29%	8,198	29%	9,936	20%
TOTAL	**40,238**	**100%**	**28,760**	**100%**	**48,921**	**100%**

Source: PriceWaterhouseCoopers *(2004)*

The examples of successful cargo-focused airports detailed above illustrates how robust an impact air cargo can be for attracting diverse industry sectors to a region. On average, nearly 40,000 jobs have been created within approximately three miles of these airports. This demonstrates how air cargo in general, and cargo-focused air facilities particularly, can act as economic catalysts for regions in which they are located.

emergence of NFIA as a competitive cargo-specialized airport could create hundreds of jobs through on-site cargo services as well as act as a catalyst for further development among several industries in the region.

Logistics

In addition to new job creation at the airport, enhancing cargo at NFIA could impact the logistics cluster already present in the Buffalo Niagara region. Given the region's ranking as one of the top ten U.S. international gateways, there are a range of logistics companies serving current cross-border freight activity. As regional logistics companies see considerable growth commensurate with national and global trends, logistics and distribution is a niche industry for the region showing a great deal of promise. Air cargo at NFIA can expand the size and range of this industry by providing an added dimension to the region's existing international trade infrastructure. As the need for logistics expertise increases with an expanded air cargo operation at NFIA, existing firms are expected to expand and the potential exists to create new firms and draw logistics professionals and companies to relocate to the Buffalo Niagara region.

Figure 8.3: Image of Dell Computers Assembly Plant

Source: News & Record (2005)

Access to efficient air cargo facilities is a prerequisite for a company like Dell Computers. Their selection of locating an assembly plant in Forsyth County in North Carolina was, in part, attributed to the proximity to the superior air cargo facilities at Piedmont Triad International Airport.

Advanced Manufacturing

An identified industrial cluster for the region, advanced manufacturing is often dependent on air cargo. While a range of companies in this sector already exist in the region, Buffalo Niagara is often challenged to retain such companies and attract new ones. A successful air cargo facility at NFIA can provide a competitive advantage that these types of companies frequently seek out in communities.

> **"In order to gain competitive advantage through speedy global supply chain connectivity, high-tech manufacturers and other time-critical shippers are locating at sites around or accessible to major airports"[ii]**
>
> -John Kasarda, the Center of Air Commerce at the University of North Carolina at Chapel Hill

Take for example a computer microchip company in search of a new manufacturing plant in the northeast. Although most of their products are assembled in Asia, many of the parts continue to be manufactured in other parts of the world. To keep up with technology, this company relies almost exclusively on just-in-time delivery and receipt of their products, as opposed to warehousing. To meet the needs of their global assembly operations and immediate delivery to consumers, the company narrows their list of potential locations to those that provide accessible air service to Asian markets, as well as ground access to North American population centers. NFIA, and its assets, could be the deciding factor for this company to relocate to the Buffalo Niagara region. The absence of reliable air cargo service would, likewise, prohibit the region from consideration. This scenario is not rare; access to air cargo to meet the needs for high-technology firms is, increasingly, an integral part of how such industries operate.[3] In promoting NFIA as a competitive air cargo port, the Buffalo Niagara region will be better equipped to attract new high-technology manufacturing and distribution centers, as well as retain the region's existing advanced manufacturing companies.

Life Sciences and Biotechnology

Another example that speaks explicitly to one of the hallmark economic development strategies of this region is the pharmaceutical and medical device industries. As life science's and biotechnology are beginning to take shape around the Buffalo Niagara Medical Campus and other industries dispersed throughout the region, public sentiment fears that innovations birthed locally will ultimately benefit other regions of the country if the manufacturing of new medical products occurs elsewhere. Preventing this scenario requires a multi-faceted economic development and strategic plan, and NFIA could play an instrumental role in retaining and attracting the manufacturing to this area. Pharmaceuticals and many medical goods require temperature-controlled transportation to prevent contamination, so they are predominantly transported via air freighters in specialized containers. As industry expert John Kasarda suggests, "[w]ith a high value-to-weight, a need for security, and perishability, the basic materials, intermediate products, and finished goods for the bio-science sector all tend to be shipped by air."[4]

Figure 8.4: Image of Lufthansa Cargo temperature-controlled air cargo container

Source: Lufthansa website (2006)

The temperature and time sensitive nature of pharmaceuticals and medical goods require special transportation care. Special containers like the one seen above are often accommodated by all-cargo aircraft.

Responding to the delicate treatment that many pharmaceutical and medical devices command, advancing NFIA's role as a specialized air cargo facility able to handle these specific needs could have a catalytic effect on the emerging regional biotechnology and life science industry.

Not a Silver Bullet

Past failures of "silver bullet" proposals aimed at salvaging the lagging local economy suggests new approaches are needed to advance the Buffalo Niagara region. Air cargo at NFIA will not be the panacea to the region's stagnant economy, nor should it be seen as such. Making air cargo work for the region will require a comprehensive approach to economic development that sees NFIA as a component of a broader strategy. Growth of regional air cargo activity will not in itself generate many of the benefits, but rather will provide a competitive edge that is highly valued in today's economy. Similarly, the success of NFIA as a cargo facility cannot be accomplished by the NFTA alone, but requires the involvement and support of a range of political, business and development leaders.

Endnotes

1. Wilbur Smith "Regional"
2. Irwin
3. Karp #2
4. Kasarda

Figures, Sidebars & Quote Boxes

i. Vancouver International Airport.
ii. Kasarda

Section 9

Case Studies

A primary concern of this study was to determine the feasibility of NFTA operating two airports. There are reasons to conclude, based on comparable operations, that this endeavor is viable. Many urban areas have secondary, minor airports to serve general aviation, but some markets have multiple airports with significant regularly scheduled passenger and cargo services: Chicago, Illinois (ORD - O'Hare & MDW - Midway), Dallas-Fort Worth, Texas (DFW - Dallas-Fort Worth & DAL - Love Field), Houston, Texas (IAH - Intercontinental & HOU - Hobby), and Washington, D.C. (IAD - Dulles & DCA - National).

In the last two decades, dedicated cargo airports have emerged as a result of the growth of integrated carriers, third party logistics providers, and congestion at primary passenger gateways. Some like March Air Field (RIV)—in Riverside County, east of Los Angeles, California—are adaptive uses of former or downsized military bases. Others are located at underutilized airfields like Mirabel International Airport (YMX) near Montréal, Québec. Fewer are greenfield developments like the public-private partnership development of Alliance Airport (AFW) near Fort Worth, Texas.

In markets similar to the Buffalo Niagara region, three cases merit additional attention: Rickenbacker Airport (LCK) in Columbus, Ohio; Willow Run Airport (YIP) near Detroit, Michigan; and Port San Antonio (SKF) in San Antonio, Texas. Rickenbacker is the most fully developed of the three. Almost all cargo in the Columbus airport system is handled there, and steady business flow is provided by anchor tenants. Willow Run serves as a reliever airport to nearby Detroit Metropolitan Airport, but Detroit's proximity to the US-Canadian border and the region's heavy manufacturing base provide some parallels to the bi-national Buffalo Niagara region. Port San Antonio is new to the air cargo business, but utilizes a shuttered US Air Force Base and a development paradigm focused on US-Mexico cross-border trade.

Figure 9.1: Aerial Image of Rickenbacker International Airport, Columbus, Ohio

Figure 9.2: Aerial Image of Willow Run Airport, Ypsilanti, Michigan

Figure 9.3: Aerial Image of Port San Antonio Airport, San Antonio, Texas

Source for Figures 9.1—9.3: AirNav, LLC website(2006)

Columbus, Ohio

MSA Population: 1,540,157

Rickenbacker Airport (LCK)
Cargo and charter
2005 enplanements (US rank)
34,948 (294)
2005 cargo landed pounds (US rank)
751,874,024 (39)

Port Columbus International (CMH)
Primary scheduled passenger service
2005 enplanements (US rank)
3,281,452 (54)
2005 cargo landed pounds (US rank)
not meaningful

Spanning over 5,000 acres of a 15,000-acre transportation and industrial zone, Rickenbacker Airport was the first, and is the largest, dedicated cargo airport that is publicly owned in the United States.[1] The airport also has a charter passenger terminal and handles general and military aviation. More than 60 companies employ about 5,000 employees at Rickenbacker, in the areas of freight forwarding, customs brokerage, truck brokerage, intermodal operations, logistics, warehousing, and e-commerce fulfillment.

The airport opened as Lockbourne Army Air Base in 1942, and was renamed Rickenbacker Air Force Base in 1974. In 1980, the federal government halted military operations at Rickenbacker, and over the decade following 1984, the Air Force transferred land to the Rickenbacker Port Authority. The Ohio Air National Guard continues significant civilian operations as an airport tenant.

During the late 1980s, airport officials began attracting air cargo operators to focus the facility on transporting and processing air cargo. In 1985, Rickenbacker brought in its first tenant, and in 1987, Foreign Trade Zone No. 183 was established in and around the airport

Figure 9.4: Rickenbacker International Airport Layout

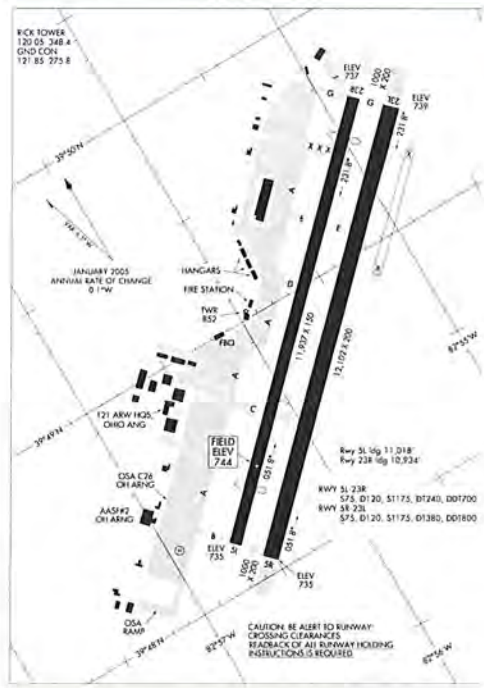
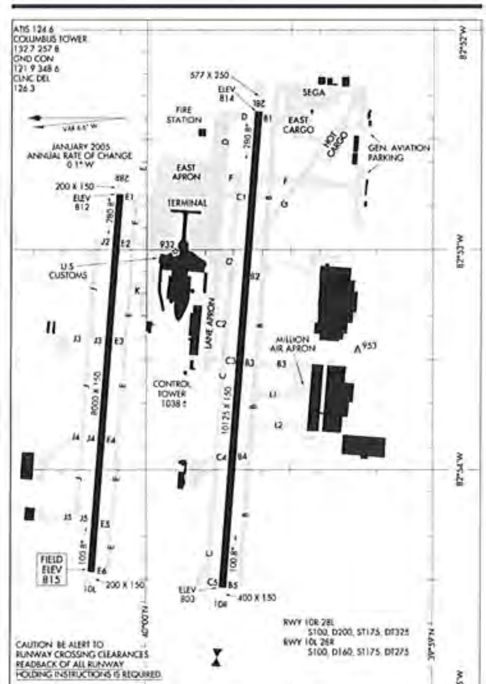


Figure 9.5: Port of Columbus International Airport Layout



Source for Figures 9.4—9.5: AirNav, LLC website (2006) (subsequently, it has significantly expanded). After 1990, a new marketing strategy based on the Greater Columbus Inland Port Concept, posited that containers arriving in New York could be unloaded, shipped by rail to Columbus, cleared by US Customs, and be broken down into smaller units and to be trucked to East Coast locations faster and more cheaply than if processed entirely in the New York City area.[2]

Lured by its relatively low cost and geographic advantage, in 1992, Eddie Bauer/ Spiegel and Siemens opened an industrial park near the airport to serve their just-in-time delivery needs.[3] These initial companies demonstrated the potential to further leverage Rickenbacker's unique characteristics as a cargo-focused airport.

In the mid 1990s, the Mid-Ohio Regional Planning Commission (MORPC)—the metropolitan planning organization—together with the Greater Columbus Chamber of Commerce started a freight planning partnership that resulted in a landmark freight study and coordinated efforts to advance freight and distribution industries. The MORPC continues to publish a biannual fact book documenting freight flows through the region, existing infrastructure and planned improvements, and industry trends.[4]

A key to Rickenbacker's success is that Columbus area leaders recognize the importance of cargo and distribution operations on the economy, and include stakeholders in the planning and program development processes, thus ensuring maximum benefit from regional improvements and funding allocations.

Governance

The Columbus Regional Airport Authority, an independent governmental agency, manages Rickenbacker along with the two other airports in the region. The agency was formed by the merger of the Rickenbacker Port Authority and the Columbus Airport Authority in 2003. A nine-member Board of Directors leads the agency. Four members are appointed by the Mayor of Columbus (with advice and consent of City Council), four are appointed by the Franklin County Board of Commissioners, and one member is appointed jointly by the Mayor and the Franklin County Board of Commissioners. Terms are four years, staggered.[5]

Growth

Air Cargo World has recognized Rickenbacker as one of the top 20 fastest growing cargo airports in the world. As part of the development of Rickenbacker's multimodal logistics infrastructure, construction is under way for a 248 acre terminal for the interchange of shipping containers between trains and trucks. To be complete by early 2008, the new intermodal terminal and associated development are expected to create 9,500 jobs and nearly 11,000 indirect jobs meaning an economic impact of over $15 billion with over $800 million in tax revenues.[6]

Lessons for NFIA

- Long term commitment: growth occured over a decade
- Strong leadership with focused vision
- Intra-County and Regional cooperation
- Integration of airport in strategic economic development planning
- Land-use planning for large area surrounding airport

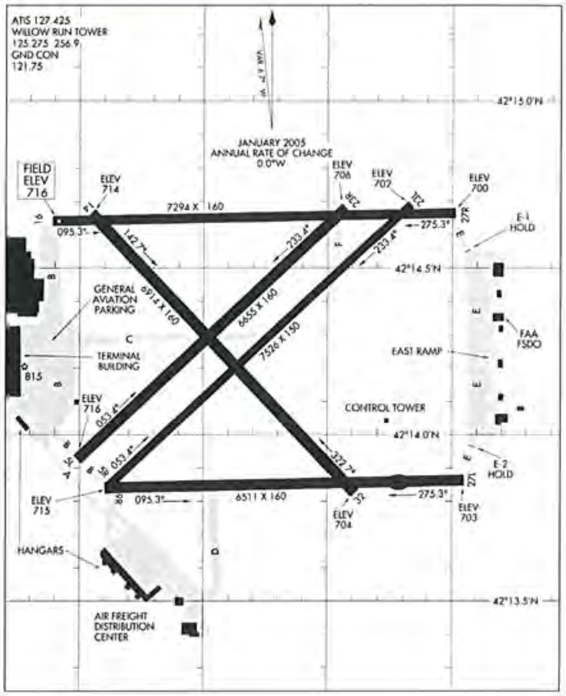
Detroit, Michigan

CMSA Population: 5,456,428

Willow Run (YIP)
Cargo and charter
2005 enplanements (US rank)
not meaningful
2005 cargo landed pounds (US rank)
341,129,830 (76)

Detroit Metropolitan (DTW)
Primary scheduled passenger service
2005 enplanements (US rank)
17,580,363 (11)
2005 cargo landed pounds (US rank)
757,250,080 (37)

Figure 9.6: Willow Run Airport Layout



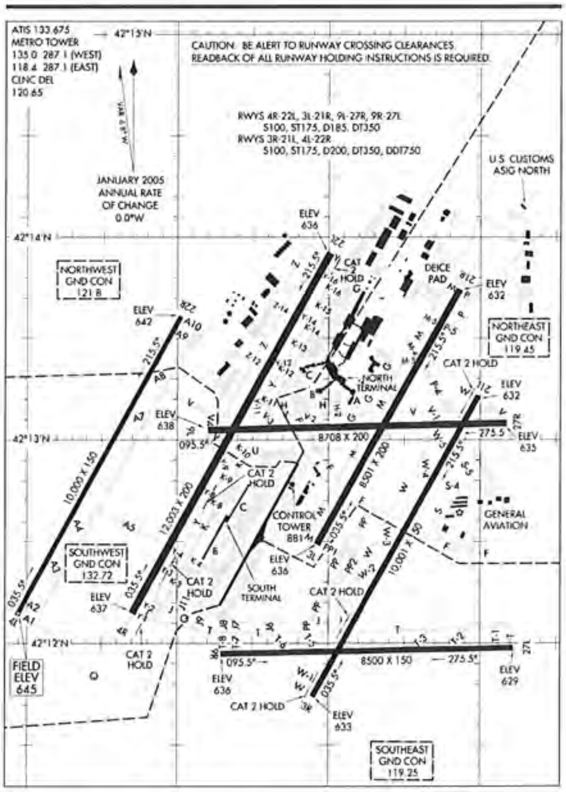
Though handling less than half the cargo volume of Detroit's primary airport seven miles away, Willow Run has carved a niche for itself in cargo and corporate flights.

Willow Run was built during World War II, along with an adjacent Ford plant that manufactured B-24 bombers. Following the war, the plant was converted to a passenger terminal, but commercial service started shifting to Detroit Metropolitan Airport in the 1950s, and ended completely by 1967.

The airport occupies about 2,700 acres offers five runways (including ILS all-weather and crosswind), a 24-hour FAA Tower, and U.S. customs operations.

Several carriers and freight forwarders transport goods through Willow Run, including high-value automotive and electronic components, emergency medical supplies, and mail and packages.[7] The airport is the base of international cargo operator Kalitta Air.

Figure 9.7: Detroit Metropolitan Airport Layout



Source for Figures 9.6—9.7: AirNav, LLC website(2006)

Governance

The Wayne County Airport Authority, established in 2002, manages Willow Run Airport along with Detroit Metropolitan Wayne County Airport. The Authority has a mandate to plan, maintain and grow both airports. An independent, seven-member Board of Directors leads the authority. Four members are appointed by the Wayne County Executive, two by the Governor, and one by the Wayne County Commission. Terms range from two to eight years.[8]

Growth

The airport creates approximately 1,500 jobs worth almost $85 million of personal income and an additional 880 indirect jobs.[9] In a positive sign for future growth, The Detroit News recently reported that Northwest Airlines and Southeastern Michigan economic development officials are discussing the feasibility of a major air cargo center at either of the two Detroit area airports.[10] The project, if executed, would take several years to develop and faces the challenge of attracting shippers to Detroit away from traditional gateways, but the involvement of Northwest Airlines with its cargo expertise is advantageous.

Lessons for NFIA

- Effective utilization of regional industries like automobile manufacturing
- Established vision of Wayne County Airport Authority to increase Willow Run's complementary role in Detroit's airport network
- Multi-dimensional strategy encompassing cargo, air flight school, and corporate charters

San Antonio, Texas

MSA Population: 1,592,383

Port San Antonio (SKF)
Cargo, Light Industrial
2005 enplanements
not meaningful
2005 cargo landed pounds
not meaningful

San Antonio International (SAT)
Primary scheduled passenger service
2005 enplanements (US rank)
3,604,665 (50)
2005 cargo landed pounds (US rank)
761,188,750 (36)

San Antonio's entrance into the air cargo market is younger than Rickenbacker and its cargo volumes are less than Niagara Falls, but its early stage of development and targeted approach to cross-border trade may provide some parallels to development at NFIA.

The 1995 Base Realignment and Closure Commission (BRAC) identified Kelly Air Force Base as a target for closure and the military facilities shut down in July 2001. Pending transfer by fee simple title (to be completed by 2007), 1,928 acres of properties will have been leased to Port San Antonio by the US Air Force.[11]

One of the perceived strengths of Port San Antonio is its location in South Texas at the juncture of Interstate Highways 10, 35, and 37. The largest volume of goods crossing the US-Mexico border is in Laredo, Texas, about 150 miles to the south of San Antonio via Interstate 35. As a result, 75 percent of all goods moving between the U.S. and Mexico flow through San Antonio.[12]

The city's port authority has begun the transformation of the former base into Port San Antonio, a multi-use airport and rail-served business park focused on three types of development: aerospace and aeronautical, commercial and mixed use, and rail-served industrial.

Figure 9.8: Port San Antonio Airport Layout

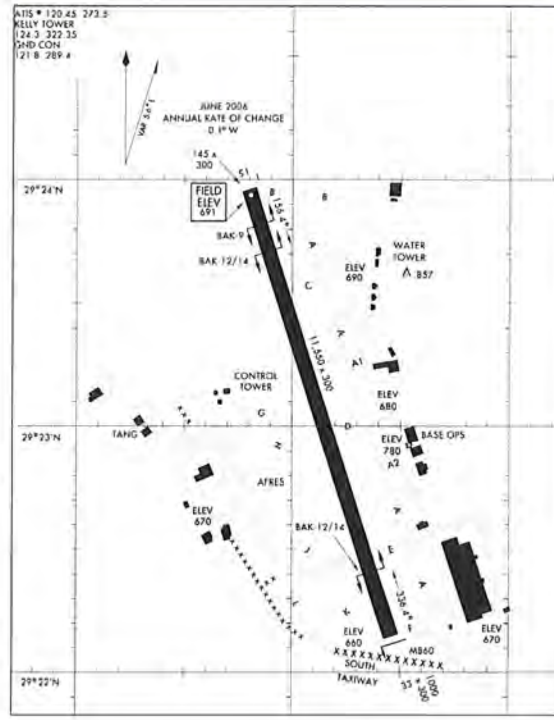
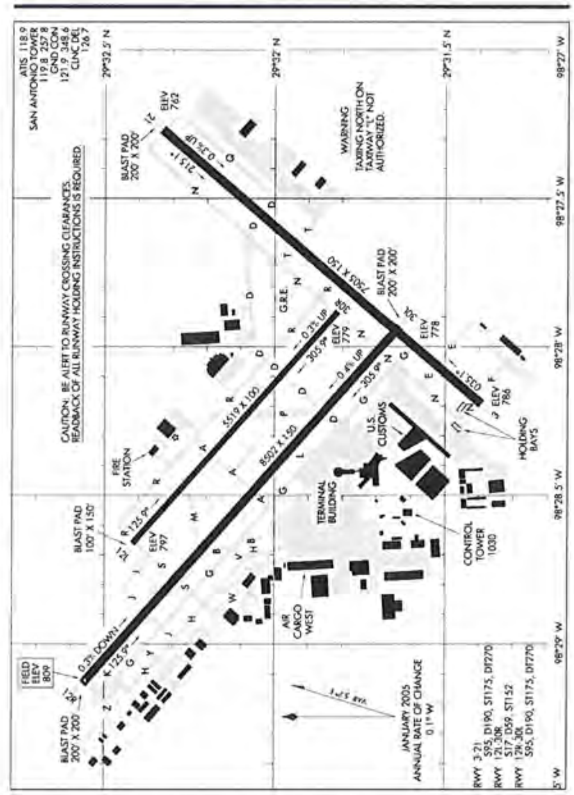


Figure 9.9: San Antonio International Airport



Source for Figures 9.8—9.9: AirNav, LLC website (2006)

Governance

The City of San Antonio established the Port San Antonio Development Authority in 1996. Its 11-member Board of Directors is comprised of business and community leaders that are appointed by City Council.

Growth

As of late 2004, almost 12 million square feet of buildings had been transferred to the Port Authority with most of the available space already leased. Over 5,100 jobs with salaries averaging more than $38,000 per year, have been created.

To maintain and guide future growth, a master plan is being developed with attention to infrastructure upgrades, roadway access, and development standards. Four key infrastructure projects will allow for the development of 12 project sites as market conditions warrant. This development, planned over about three years, is expected to create 6,400 jobs with have an economic impact of $4.3 billion, and more than $32 million in annual tax revenues. Over two-thirds of the associated costs of the project is expected to come from private sources.[13]

Lessons for NFIA

- Building on strategic assets and location: US-Mexico trade corridor, existing rail and highway connections, existing, military-trained expertise
- Motivated work force with a community supported training program
- Focused marketing and growth strategy

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Section 10

Implementation

In order for NFIA to be successful in creating jobs and increasing investment within the region, the NFTA will need to collaborate and coordinate with many stakeholders in order to facilitate regional cooperation. These discussions must inevitably include numerous political leaders, economic development organizations, trade agencies, bridge authorities, and freight forwarders, among other interested parties.

An open and productive dialogue between organizations on both sides of the border will also help determine how cargo operations at NFIA can benefit the bi-national region's economy, without compromising successful operations at the region's other airports. As the only local government agency that is truly regional in scope, the NFTA is in a unique position to take the lead in bringing these parties together to pursue common economic development objectives.

The following recommendations serve as a starting point for the NFTA in their efforts to craft a strategy to advance NFIA as an air cargo gateway. Due to the size and scope of the project, these recommendations will change over time as new information becomes available; and, since other organizations will play a role, these recommendations should not be viewed as comprehensive. Further study should be conducted to identify these other stakeholders and to understand the complexities of their interactions.

Bi-National Cooperation

While the success of NFIA as a cargo facility will spur job creation and investment within Western New York, it will also provide opportunities for economic expansion across the border in Ontario, Canada. Therefore cooperation with government agencies in Ontario will be crucial. The NFTA, in their efforts to facilitate the development of air cargo at NFIA, should bring to the table the following ministries, agencies, and organizations: Ontario Ministry of Economic Development and Trade; Ministry of Small Business and Entrepreneurship; Ontario Chamber of Commerce; and the Ministry of Public Infrastructure and Public Renewal. Each of these organizations has an understanding of the challenges facing the Canadian business community and can provide guidance on the role that air cargo at NFIA can play in addressing them.

Additionally, bi-national agencies such as the Public Bridge Authority (Peace Bridge) and the Canadian-American Border Trade Alliance need to be brought into discussions regarding air cargo at NFIA.

US Regional Inter-Governmental Coordination

Coordination among Elected Officials

The development of NFIA into a cargo facility is an extraordinary opportunity for elected officials in Western New York to play a leading role in leveraging a currently underutilized regional asset. As the global economy transforms the nature of trade and commerce, local officials within the region may find themselves questioning where their municipalities fit. The answer lies in reinventing or rediscovering the region's long and successful history of transportation and international trade. In addition to attracting new business into the area, political capital can be used to further expand existing transportation and trade infrastructure. Although growth at NFIA is no economic panacea, the development of cargo facilities provides the region with a powerful new tool to enter the global marketplace.

One significant obstacle to a successful NFIA cargo project is a lack of cohesive vision and action. The large number of municipal governments in both Erie and Niagara Counties, coupled with ongoing economic restructuring, make it challenging to formulate a unified regional development strategy. Officials seem to approach development parochially, believing that to be in the best interests of their immediate constituents. This pattern of putting locality over region needs to be addressed if the NFIA is to realize its potential.

Elected officials such as New York State Congressional delegates, Erie and Niagara County legislators, and municipal leaders must develop a common vision for NFIA. This may require roundtable discussions, the dissemination of literature, and other appropriate measures to inform elected officials and other stakeholders about the project and its potential benefits for the region. Once united, state delegations could collaborate to identify and secure public funds for NFIA projects. Funds are currently needed at NFIA to upgrade the fuel farm and to expand the cargo aprons. These projects, expected to cost in the millions, are preconditions to the Niagara Cargo Park consortium constructing the first of its two cargo buildings.

Coordination among Public Agencies

Niagara County Industrial Development Agency/Erie County Industrial Development Agency

A partnership between the Niagara County Industrial Development Agency (NCIDA), the Erie County Industrial Development Agency (ECIDA), and the NFTA is central to achieving the maximum economic impact of air cargo operations at NFIA. Such an alliance would greatly enhance the capacity of the NFTA and the IDAs to help promote interest in NFIA and the region. In order for the bi-national region to receive economic benefits from the airport, a combination of airlines and logistics companies will need to be recruited to partner with NFIA to create an international cargo hub. A major air cargo facility may also make the region attractive to manufactures and others who need access to air cargo either as shippers or receivers. The NFTA should make readily available to airlines and other interested businesses, information regarding current air cargo operations and development opportunities at NFIA and information explaining the various financial incentives available through the NCIDA and ECIDA.

It is often noted that New York State is at a competitive disadvantage when it comes to attracting new companies because of its tax structure and regulatory environment. As a result NCIDA, ECIDA, and the NFTA need to work closely together to develop strategies that will address these conditions. NCIDA and ECIDA already provide incentives such as loans with below-market interest rates; tax exemptions on materials used for construction of new businesses; real property tax abatements; and workforce development services. Each of these incentives can be tailored to specific projects. The NFTA, NCIDA, and ECIDA should together develop similar incentive packages for companies specifically looking to build or utilize cargo operations at NFIA. These incentive packages should also be proactively marketed to target companies.

Public-Private Partnerships

World Trade Center Buffalo Niagara

As globalization continues to interconnect markets around the world, it becomes essential for businesses to operate internationally to remain competitive. Consequently, the NFTA would benefit from expanding its working relationship with the World Trade Center Buffalo

Greater Columbus Inland Port Commission

The success of Rickenbacker International is attributed to a process that involved leadership from both public and private stakeholders with shared regional economic development goals. Responding to growth in cargo at Rickenbacker in the late 1980s, the Greater Columbus Inland Port Commission was created in 1991 as a public/private group that promotes trade and development of intermodal freight shipping and distribution in the Columbus region. Parties involved in this commission include: public sector representatives at the city, county, state and federal levels; the Greater Columbus Chamber of Commerce; and private sector interests including individual manufacturers, shippers, carriers and other private service providers. Additionally, as Rickenbacker is embarking on a substantial expansion of services through creation of the Rickenbacker Global Logistics Park, a close partnership has been established with Duke Realty, a prominent real estate agency, that is assisting in the development and marketing of industrial space for non-aeronautical industries looking to benefit from the proximity to Rickenbacker.[1]

Niagara (WTCBN). WTCBN has expertise in the field of international trade, representing both Western New York and Niagara, Ontario. Presently, it has affiliates in over 100 different countries. This extensive network gives the WTCBN intimate knowledge of the international market and how air cargo operations at NFIA can benefit the bi-national Western New York/ Southern Ontario region. Keeping abreast of global business trends is necessary so that the NFTA can assist local companies seeking international ties and provide the services that meet the needs of the international community.

The Buffalo Niagara Partnership

The Buffalo Niagara Partnership provides an important opportunity for collaboration with the NFTA. Representing over 2,500 diverse companies within the Buffalo Niagara region, the Buffalo Niagara Partnership has access to the pulse of the local business community. With such a broad participation in the local economy, the Buffalo Niagara Partnership is an essential vehicle to communicate with regional businesses about new developments and business opportunities involving NFIA.

Buffalo Niagara Enterprise

The Buffalo Niagara Enterprise (BNE), a private business development and regional marketing organization, was launched in 1999 by the local business community in an attempt to equalize Buffalo Niagara's competitiveness with that of the national and international economy. The BNE serves as a component of the larger marketing team that serves as the marketing voice for the region by providing vital information and assistance for interested businesses, helping to attract new companies to the region. The BNE also provides assistance in the development and promotion of tax incentive packages from the region's industrial development agencies.

Cooperative Land-Use Planning Among Selected Local Governments

Successful case studies show that a comprehensive land-use plan is necessary to manage growth and to prevent ad hoc development from weakening economic expansion. On-site and around NFIA, such a plan would ensure availability of properties surrounding the airport for future development, such as the 22-acre parcel on the southeast side of the airport that is to be vacated by the United States Army by 2008. A clear and collaborative development vision also serves as a guide for future NFIA land acquisitions.

The involvement of multiple parties, including the NFTA, the Town of Niagara, the Town of Wheatfield, the City of Niagara Falls, and potentially the NCIDA, may make it difficult to reach consensus on these important land-use decisions, however. To address this problem, a regional development authority—perhaps modeled after the successful regional development authority at Rickenbacker Airport in Ohio—could be created to formulate policies that maximize regional benefits. Once established, a regional development authority could also foster continued dialogue between the parties to aid in the development of land-use policies that maximize benefits to all. Creating such an Authority will not be a simple process, since current zoning ordinances and land use controls will have to be updated and aligned and this process will require an initial intensive study. Assistance in this endeavor may be provided by the University at Buffalo, perhaps in a joint studio between the School of Law and Urban Planning Department.

It is worth noting that the Town of Wheatfield in its Comprehensive Plan already recognizes the need for cooperative land-use planning: "It is clear that future proposed uses and zoning in this area will benefit from continued coordination between these municipalities. Plans for the redevelopment of the airport property should also be incorporated into these efforts. If properly planned, with leadership from the Town of Wheatfield, this area will provide a hub of business activity and economic development benefiting all three communities."

Creative Approaches to Marketing

The NFTA, as a public agency created under New York State law, focuses on operations rather than promotion, but it should continue to seek out creative and cost effective approaches to marketing that will enhance the success of its operations.

Revamp the NFIA Website

An immediate priority with minimal cost should be to revamp the NFIA website to convey the current potential, momentum, and excitement of this airport development project. Special attention should be paid to the website's home page, which will be the first exposure to the airport for many potential users. The website should provide easily accessible and relevant information regarding air cargo operations, passenger charters, foreign trade zone availability, existing facilities, and surrounding real estate opportunities. The websites of other successful cargo airports, such as Rickenbacker and Willow Run, should be reviewed for layout and content design.

Introduce Region's "Soft Infrastructure" to the Broader Market

In addition to the available "hard infrastructure" at NFIA, such as land and the runway, the Buffalo Niagara region has significant human capital and other "soft" assets, among them freight forwarders, international trade experts, and trucking companies that make the region a logical place for an air cargo facility. These existing logistics providers constitute a valuable asset for the development of NFIA. The NFTA should look beyond the immediate region and market this vital "soft infrastructure" to producers, assemblers, and distributors within the 500 mile/one day's drive radius, and in the international markets from which the NFTA hopes to attract cargo operations. This outreach should communicate the advantages of utilizing NFIA for air cargo by highlighting not only the strategic "hard assets" and cost advantages, but also the expert human capital in the region. Reaching out to logistics experts within this larger space will also increase the name recognition of NFIA.

Monitor Industry Variables

The success of NFIA as a bi-national air cargo gateway will probably not be fully attainable for at least a decade. During this time, the NFTA will need to vigilantly monitor a variety of indicators and information sources including: air cargo trends; population shifts; road capacity; national security initiatives; international trade agreements; the United States "open sky agreements"; and any other developments impacting the air cargo industry. This continuing work will ensure that NFIA can respond to changing conditions and remain competitive. The critical nature and scope of this work strongly suggests that it should not be added as an extra responsibility to an existing NFTA senior staff member; rather, it should be assigned as the primary task of additional staff.

Increase Public Engagement

Local communities also need to be informed about the potential benefits from NFIA development. When the federal government targeted the Niagara Falls Air Force Base for closing, the local public expressed their opinions in a variety of ways. At stake were several hundred jobs and millions of dollars in regional economic activity. The successful campaign to keep the Niagara Falls Air Force Base operating is an example of the influence the public has when they are motivated toward a common goal by a clear understanding of the issues.

Similarly, a campaign to engage the public in the planning for future development of cargo operations and passenger charters at NFIA needs to be undertaken. At stake are thousands of potential jobs and potentially billions of dollars in economic activity that will have little chance of being realized if a coordinated effort is not initiated. Arousing public sentiment in this fashion will protect the public interest and generate the political support necessary for enhancement of NFIA as a major economic generator for the region.

A Sense of Urgency

While NFIA is in a position to capture growth in the air cargo market, failure to act soon may result in another missed opportunity. As time passes more airports will be making the facility upgrades necessary to attract air cargo, effectively eliminating the competitive advantages that NFIA currently offers. It is therefore critical for NFTA to continue efforts towards unifying elected leaders, coordinating with organizations on both sides of the border, marketing the airport, and engaging the local population. The current Greater Buffalo Niagara Regional Transportation Council (GBNRTC) freight study, expected to be completed by next year, should enhance the knowledge of, and interest in, this important development initiative.

This study should address the following issues:

- The types of goods traveling by air within the region
- The origin and destination of the goods traveling by air
- The special needs (time sensitivity, refrigeration, etc.) of these goods
- The trends of belly freight within the region An assessment of producers in the 500 mile radius of NFIA who might be induced to use the airport as their "outbound" portal
- The likely impact that national security screening processes will have on belly freight
- The amount of truck traffic the airport can handle and how best to route trucks to eliminate bottlenecks.

Failures to move aggressively now will very likely cause another self inflicted wound on a region that so often ignores its obvious assets while seeking unlikely "silver bullet" solutions to its long term economic decline. NFIA as an international and bi-national cargo facility takes advantage of both current assets and global market trends. It is a significant piece of a viable strategy to reassert Buffalo Niagara's historic role as a logistics center.

Endnotes

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