PORT OF PORTLAND

Chapter Two

FUTURE ROLE OF HILLSBORO AIRPORT

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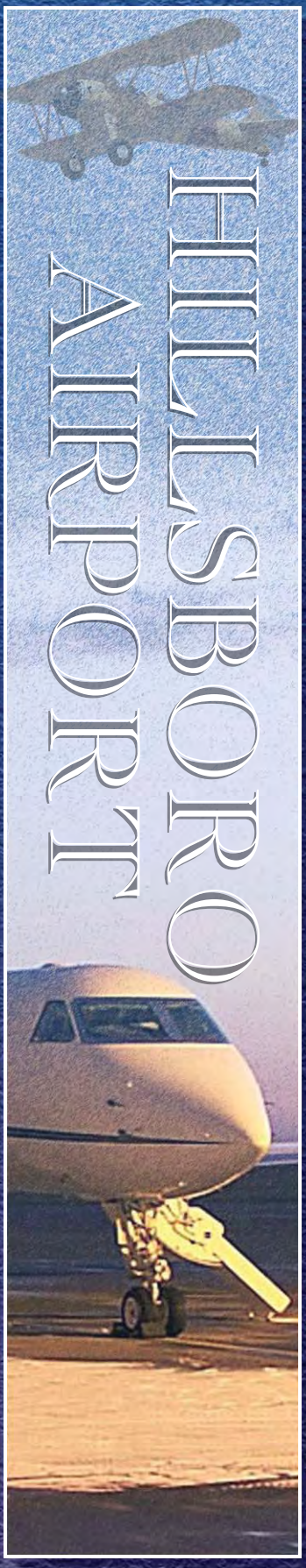

The purpose of this chapter of the Airport Master Plan is to analyze the feasibility of alternative roles for Hillsboro Airport within the context of the Portland metropolitan system of airports and State of Oregon system of airports. This analysis provides a foundation for the Port of Portland to determine, specifically and ideally, what Hillsboro Airport's role should be through 2025. This involves considering the probability and viability of supporting scheduled commercial air service and/or air cargo activity at Hillsboro Airport.

HILLSBORO AIRPORT'S EXISTING ROLE

The role for Hillsboro Airport is defined within both state and federal aviation plans. At the national level, Hillsboro Airport is defined as a reliever airport in the Federal Aviation Administration's (FAA) *National Plan of Integrated Airport Systems (NPIAS)*. Reliever airports are specially designated general aviation airports intended to reduce congestion at large commercial service airports. This reliever role is usually accomplished, not by accommodating commercial flights, but by providing an attractive option for the myriad of non-commercial, general aviation aircraft operations that urban areas generate. Hillsboro Airport is classified as a reliever for Portland International Airport (PDX). In this role, Hillsboro Airport is intended to preserve capacity at PDX by offering an alternative operating area for general

aviation aircraft, separate from commercial airline and air cargo activities.

The NPIAS includes a total of 3,489 airports (both existing and proposed), together with the airport development necessary to meet the present and future requirements in support of civil, national defense, and postal service needs. An airport must be included in the NPIAS to be eligible for federal grant-in-aid assistance. Hillsboro Airport and Troutdale Airport are the only designated reliever airports in the State of Oregon included in the NPIAS.

At the state level, Hillsboro Airport is included in the *Oregon Aviation Plan* prepared by the Oregon Department of Aviation (ODA). The *Oregon Aviation Plan* defines five categories of airports, ranging from Category 1, Commercial Service Airports, to Category 5, Low Activity General Aviation Airports. Hillsboro Airport is classified as a Category 2, Business or High Activity General Aviation Airport. The *Oregon Aviation Plan* defines a Category 2 airport as an airport to "accommodate corporate aviation activity, including business jets, helicopters, and other general aviation activities." Including Hillsboro Airport, there are ten (10) Category 2 airports in the *Oregon Aviation Plan*.

Neither the NPIAS nor the ODA anticipate Hillsboro Airport changing from a general aviation airport to a commercial service airport in the future.

THE AIR TRANSPORTATION INDUSTRY

Prior to examining the existing and future role for Hillsboro Airport, it is important to draw a distinction between the various segments of the air transportation industry in the United States. There are three broad segments of the national air transportation system: commercial air carriers, military, and general aviation. Hillsboro Airport currently serves each of these segments of the air transportation industry.

COMMERCIAL AIR CARRIERS

Commercial air carriers are broadly defined in section 101 of the *Federal Aviation Act of 1958*, as amended, as any domestic or foreign aircraft carrying passengers or cargo for hire. Federal regulations draw a distinction between air carriers, based on the number of seats within an aircraft used for air carrier activities or the payload capacity of the aircraft, and whether the air carrier provides scheduled or unscheduled service. Federal Aviation Regulations (FAR) Part 121, *Operating requirements: Domestic, Flag, and Supplemental Operations*, requires that air carriers using passenger aircraft with more than nine passenger seats operate only at certificated airports such as PDX.

PDX is certificated under FAR Part 139, *Certification and Operations:*

Land Airports Serving Certain Air Carriers, to allow the operation of scheduled air carriers with more than nine passenger seats. Hillsboro Airport is not certificated under FAR Part 139; therefore, at this time, Hillsboro Airport cannot accommodate scheduled air carriers using aircraft with more than nine passenger seats. Hillsboro Airport would be required to obtain FAR Part 139 certification to accommodate scheduled air carrier activity with aircraft with more than nine passenger seats.

FAR Part 139 sets forth rules for a continuous self-inspection program of operations and maintenance by the airport owner, to ensure a safe operating environment for commercial air carrier aircraft. FAR Part 139 requires the development of an airport certification manual to describe how the airport would comply with the regulations and the details of the self-inspection program. These regulations specify that airport rescue and firefighting equipment and personnel be on hand during air carrier operations, and the development of an emergency plan. FAR Part 139 further specifies inspections of the air carrier operating areas, limiting vehicle and pedestrian access to the airfield and air carrier operating areas, the protection of navigational aids on the airport, and identification (or removal) of obstructions in the air space used by air carrier aircraft.

The Port of Portland estimates the initial cost to implement FAR Part 139 certification at Hillsboro Airport at $200,000, with annual recurring operational costs between $50,000 and $75,000. These initial costs assume the necessary terminal modifications to accommodate the security and operational needs of an airline, while the recurring costs include the costs associated with an intergovernmental agreement with the City of Hillsboro for Police and Fire support.

Airports without FAR Part 139 certification can only accommodate operations by passenger-carrying aircraft with fewer than 10 passenger seats. This would comprise a limited number of aircraft such as the Cessna Caravan or Beechcraft King Air aircraft. These are aircraft that currently operate at the airport. Within the continental U.S., there are only a handful of operators providing scheduled service with aircraft with fewer than 10 passenger seats. These aircraft are used on specialty niche routes and are not associated with any mainline aircraft operation. The use of this size aircraft for scheduled airline service is most prevalent in Alaska.

Some air carriers operate on an on-demand basis, while other air carriers provide commuter service. These types of operations fall outside the FAR Part 139 certification described above, and could be accommodated at Hillsboro Airport. In fact, on-demand services, or charter services as they are commonly referred to, are currently provided from Hillsboro Airport now. Charter services are also available from many of the Fixed Base Operators (FBO) on the airport.

On-demand air carrier services are provided using aircraft with 30 or fewer passenger seats or payload capacity less than 7,500 pounds. A commuter operation must be conducted with non turbojet (i.e., turboprop or piston-powered) aircraft with nine or less passenger seats or a payload capacity less than 7,500 pounds. A commuter must operate more than five scheduled flights per week, otherwise they would be considered as an on-demand air carrier. FAR Part 135, *Operating Requirements: Commuter and on Demand Operations and Rules Governing Persons On board Such Aircraft,* governs these operations. These operations are sometime referred to as air taxi operations and included in the air taxi category for air traffic counts.

Without FAR Part 139 certification, Hillsboro Airport can only legally accommodate the following segments of the commercial air carrier industry:

- Scheduled air carriers using aircraft with nine or fewer passenger seats.
- Air cargo carriers using aircraft with a payload capacity less than 7,500 pounds.
- On demand air carriers using aircraft with 30 or fewer passenger seats and a payload capacity of less than 7,500 pounds.
- Commuter operations with non turbojet aircraft that have a seating capacity of nine or fewer passenger seats and a payload capacity of less than 7,500 pounds.

MILITARY

The term "military" refers to U.S. Department of Defense (DOD) aircraft operations, foreign military operations, or operations by state National Guard aircraft. Hillsboro Airport currently accommodates local and transient operations by military rotorcraft and an occasional jet aircraft.

GENERAL AVIATION

General Aviation or GA is defined as all aviation other than military and commercial airlines. General aviation includes a diverse range of activities such as pilot training, sightseeing, personal/recreational flying, agricultural spraying and seeding, and emergency medical services. Fractional business jet operations (i.e. companies or individuals owning fractions or shares in a fleet of aircraft managed by a single operator) are also a component of general aviation.

The General Aviation Manufacturers' Association (GAMA) estimates that 166 million passengers are carried annually on general aviation aircraft ranging from two-seat training aircraft to intercontinental business jets. Furthermore, GAMA states that general aviation is relied on exclusively by more than 5,000 communities for their air transportation needs (scheduled airlines served about 500) and that nearly 70 percent of the hours flown by general aviation are for business purposes.

REASONS FOR EXAMINING THE AIRPORT ROLE

The examination of a new role for Hillsboro Airport within the Portland metropolitan system of airports is the result of a number of factors including changes within the air transportation industry, interest by the business and general aviation community for some change, interest in such service by the community, and facility planning for PDX. A component of the *2000 Portland International Airport Master Plan* was the determination of "Strategies for Capacity Preservation." These strategies included the Port of Portland (Port) examining "other transportation modes or other airports to meet the air transportation needs of the region." This included investigating passenger air service and air cargo handling opportunities at both Port-owned and non-Port owned airports.

Prior to completing the 2000 Portland International Airport Master Plan, the Port requested that a panel of local and regional experts provide a "scan" of possible air transportation alternatives to determine whether or not any warranted further review. This panel was known as the Regional Air Transportation Demand Task Force (RATDTF). In their final report dated April 14, 2000, this panel suggested that other airports in the State of Oregon could offer capacity relief for PDX should they be able to accommodate more air service and/or air cargo activity. Hillsboro Airport was mentioned as one of several potential airports to accommodate commercial passenger activity. Existing commercial service airports in Medford, Corvallis, Eugene, and Redmond were also mentioned as potential candidates to reduce demand at PDX should these airports be able to capture a greater number of the passengers in their service areas that now use PDX. This is commonly referred to as leakage, where passengers will by-pass the airport closest to them and use PDX. For example, an air traveler located in Bend, Oregon, would drive to PDX instead of flying from Redmond.

However, in noting the potential for other airports to emerge as greater commercial service and/or air cargo providers, the RATDTF also recognized that none of the airports mentioned above were likely to emerge as significant substitutes. The study noted that Hillsboro Airport could only accommodate small regional air carrier passenger equipment and would require large capital investments to handle the larger airplanes currently using PDX. For Medford, Corvallis, Eugene, and Redmond, the RATDTF noted that unless the markets in these areas grow or current airline business practices change, the likelihood of these airports to grow substantially is remote.

While the airport role analysis contained in this chapter will examine the potential for commercial air service and/or air cargo at Hillsboro Airport, the establishment of a military unit on the airport will not be considered within the airport role chapter or the Master Plan. As recommended by the RATDTF in the 2000 PDX Master Plan, the Port of Portland is currently

conducting a military siting analysis to determine the most feasible long-term location for the military currently operating at PDX (the Oregon Air National Guard and the U.S. Air Force Reserve). The RATDTF recommended that the military remain in the metro area, but not necessarily at PDX. All potential locations within the metro area will be considered as part of the analysis. This will include general aviation airports such as Hillsboro, McMinnville, and Scappoose – among others - as well as undeveloped sites.

Site selection criteria from five broad categories will assist in narrowing the list of potential military relocation sites. These criteria include: physical, operational, environmental, economic and social-political elements. The information gained from the analysis will feed into the next PDX Master Planning process scheduled to begin in the latter half of 2005. The final military siting analysis report is not expected to be published until summer 2004. A summary of the report's findings as they may relate to the update of this update of Hillsboro Airport's master plan and compatibility study will be incorporated as appropriate.

Defining the airport's role is an important component of the Hillsboro Airport Master Plan, as the defined role will form the basis for the determination of aviation demand (Chapter Three) and facility requirements (Chapter Four) for Hillsboro Airport through 2025.

REGIONAL AIRPORT COMPARISON

There are 23 public-use airports in the Portland-Vancouver metropolitan area, each having different capabilities, capacities, and roles. Half of these airports are publicly-owned (owned by the Port, a municipality, or the state), while the others are privately-owned. Portland International Airport is the only commercial service airport in the metropolitan area. Six of the 23 airports are located in Clark County, Washington. **Exhibit 2A** summarizes specific facility data for each of these airports and depicts their location in the metropolitan area.

In examining the data on Exhibit 2A, it is evident that Hillsboro Airport is the most capable general aviation airport in the metropolitan region. Hillsboro Airport has the longest runway of all general aviation airports, a crosswind runway to allow for safe landing and departures in all wind conditions, an airport traffic control tower (ATCT), and an instrument landing system (ILS). McMinnville Municipal Airport provides the only other ILS at a general aviation airport and a crosswind runway. Hillsboro Airport supports the second largest number of based aircraft and highest number of annual operations.

While Pearson Field and Grove Field are located closer to the Portland city center than Hillsboro Airport, these airports are under the more restrictive

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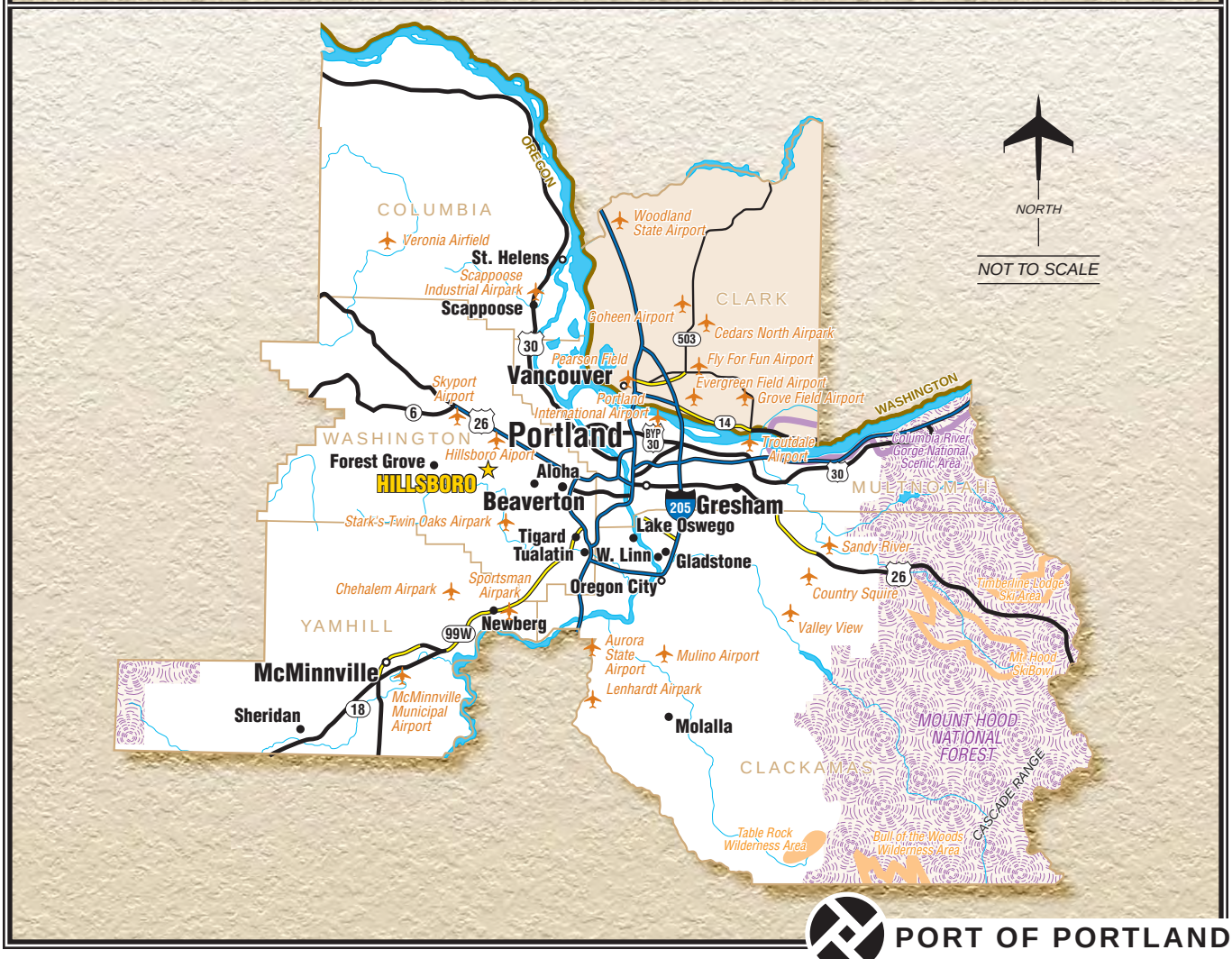
Airport Name	Included in NPIAS	ODA Category	Longest Runway	# of Runways	Based Aircraft	Annual Operations	ATCT	IAP	Services	Owner-ship	State	Airspace
Portland International Airport	Yes	Category 1	11,000' Asphalt	3	128	310,000	Yes	Yes	F,T,RE,C,AR,FI	Public	Oregon	Class C
Hillsboro Airport	Yes	Category 2	6,600' Asphalt	2	363	240,000	Yes	Yes	F,T,RE,C,AR,FI	Public	Oregon	Class D/E
McMinnville Municipal Airport	Yes	Category 2	5,420' Asphalt	2	140	63,000	No	Yes	F,T,RE,C,AR,FI	Public	Oregon	Class E
Troutdale Airport	Yes	Category 2	5,399' Asphalt	1	177	107,000	Yes	Yes	F,T,RE,C,AR,FI	Public	Oregon	Class C
Scappoose Industrial Airpark	Yes	Category 2	5,100' Asphalt	1	151	60,000	No	Yes	F,T,RE,C,AR,FI	Public	Oregon	Class E
Aurora State Airport	Yes	Category 2	5,004' Asphalt	1	387	73,000	No	Yes	F,T,RE,C,AR,FI	Public	Oregon	Class E
Mulino Airport	Yes	Category 4	3,600' Asphalt	1	58	21,000	No	No	F,T,RE,AR,FI	Public	Oregon	Class E
Pearson Field	Yes	N/A	3,275' Asphalt	1	210	41,000	No	Yes	F,T,RE,AR,FI	Public	Washington	Class C
Grove Field Airport	Yes	N/A	2,710' Asphalt	1	61	12,400	No	No	F,T,RE,AR,FI	Public	Washington	Class C
Veronia Airfield	No	Category 4	2,940' Turf	1	7	2,900	No	No	T	Public	Oregon	Class E
Woodland State Airport	No	N/A	1,965' Asphalt	1	16	3,500	No	No	T	Public	Washington	Class E
Sportsman Airpark	Yes	Category 4	2,745' Asphalt	1	53	11,600	No	No	F,T,RE,AR,FI	Private	Oregon	Class E
Valley View	No	Category 4	3,780' Asphalt	1	33	3,000	No	No	T	Private	Oregon	Class E
Lenhardt Airpark	No	Category 4	3,200' Asphalt	1	23	6,000	No	No	F,T	Private	Oregon	Class E
Country Squire	No	Category 4	3,095' Asphalt	1	27	2,000	No	No	T	Private	Oregon	Class E
Goheen Airport	No	N/A	2,600' Turf	1	29	1,600	No	No	F,T,RE,AR,FI	Private	Washington	Class E
Fly For Fun Airport	No	N/A	2,580' Turf	1	7	2,900	No	No	T	Private	Washington	Class C
Evergreen Field Airport	No	N/A	2,545' Asphalt	1	165	68,000	No	No	F,T,RE,AR,FI	Private	Washington	Class C
Chehalem Airpark	No	Category 4	2,285' Asphalt	1	9	7,800	No	No	F,T,RE,C,AR,FI	Private	Oregon	Class C
Sandy River	No	Category 4	2,115' Turf	1	24	11,300	No	No	T,RE	Private	Oregon	Class E
Stark's Twin Oaks Airpark	No	Category 4	2,060' Asphalt	1	98	22,000	No	No	F,T,RE,AR,FI	Private	Oregon	Class E
Skyport Airport	No	Category 5	2,000' Turf/Gravel	1	3	2,000	No	No	F,T,RE,AR,FI	Private	Oregon	Class E
Cedars North Airpark	No	N/A	1,960' Turf	1	7	1,000	No	No	T	Private	Oregon	Class E

Source: FAA 5010-1, Airport Master Record Form; US Terminal Publications, Oregon Aviation Plan, NPIAS; Washington Department of Transportation
IAP - Instrument Approach Procedure; ATCT - Airport Traffic Control Tower; ODA - Oregon Department of Transportation Aeronautics Division
F - Fuel, T - Tiedown, RE - Repair, AR - Aircraft Rental, FI - Flight Instruction, C - Charter



PORT OF PORTLAND
Exhibit 2A
REGIONAL AIRPORT COMPARISON

Class C airspace surrounding Portland International Airport. Pearson Field and Grove Field have short term runways that are not as capable of handling the mix of aircraft operating at Hillsboro Airport.

Hillsboro Airport is in Class D airspace when the ATCT is operating; Class E airspace when the tower is closed. Troutdale Airport does not currently provide the same instrument approach capability as does Hillsboro Airport. While the airspace surrounding Troutdale is Class D due to the ATCT at Troutdale, Troutdale Airport is also located under the PDX Class C airspace.

The 23 general aviation public-use airports are important to the Portland metropolitan air transportation system. First, these airports provide alternate landing areas for general aviation aircraft away from PDX. This preserves airfield capacity at PDX by reducing general aviation traffic at the airport. Secondly, these airports provide convenient locations near local residents' homes and businesses, to locate privately-owned aircraft. These airports also support business and economic growth by being located near the diverse economic areas of the metropolitan area for access by visitors and transient business users. Finally, these airports also allow convenient locations for air ambulance transport flights.

In recognizing the importance of the benefits of these general aviation airports, it is important to consider the impacts that any change to the role of any one of these airports may have on the ability to continue to provide general aviation services at Hillsboro Airport. As alternative roles for Hillsboro Airport are examined within this section, it is important to remember how Hillsboro Airport is positioned in the metropolitan air transportation system. Hillsboro Airport has evolved as the primary general aviation airport in the metropolitan area. The capabilities of the airport cannot readily be replaced by another airport in the region, without significant capital investments for runway development, air traffic control, and/or instrument approach capability.

COMMERCIAL PASSENGER AIR SERVICE POTENTIAL

Commercial air service for residents of Washington County has historically been provided at PDX, located approximately 30 miles (by vehicle) northeast of the City of Hillsboro.

The primary reasons for considering the potential for commercial passenger air service at Hillsboro Airport include capacity preservation at PDX and roadway congestion that at times increases travel times to PDX from Washington County. Capacity preservation relates to the objective of the *2000 Portland International Airport Master Plan* that suggested that alternative airports be examined to accommodate demand currently accommodated at PDX. The goal of the objective was to evaluate if facility expansions at PDX could be delayed if

sufficient levels of air travelers and air cargo needs could be accommodated at another regional airport.

During peak travel periods, travel to PDX from the Hillsboro area by road has considerable delays, with travel times extending more than one hour. The availability of commercial service at Hillsboro Airport is thought to have the potential to reduce vehicle travel times and be more convenient for local residents. Reduced travel times could have ancillary benefits in terms of air and water quality, due to reduced emissions. This is shown by the results of the Hillsboro Community Survey commissioned by the Port during the week of April 8, 2002. The survey results noted that 40 percent of those surveyed thought PDX was not easy to get to, and that roadway congestion is a moderately negative factor for Washington County residents traveling to PDX.

While vehicle travel times to PDX are affected by congestion, light rail service is available from Washington County to PDX. According to the Tri-Met schedule, light rail service from the Washington County Fair Complex/Hillsboro Airport Max station to PDX is scheduled at 88 minutes.

Other factors that trend toward considering scheduled passenger air and/or air cargo service at Hillsboro Airport include: location and proximity to population growth in the western metropolitan area, potential operating cost advantages over PDX for an airline, the growing high-tech economy and the many individuals and businesses in the western metropolitan areas that have voiced an interest in seeing such services offered.

With regard to the potential for scheduled airline service, 42 percent of the respondents in the Hillsboro Community Survey stated that they were "very likely" to use scheduled airline service at Hillsboro Airport if it were available. Another 29 percent said they were somewhat likely to do so. In all, seven in ten respondents said that they were "very" or "somewhat" likely to use Hillsboro Airport if commercial passenger service were available.

It should be noted that this survey did not qualify the type of air service at Hillsboro Airport in terms of cost, destinations served, or aircraft type, when asking the survey respondents if they would use air service at Hillsboro Airport. There are many choices for air travelers in terms of the number of destinations, costs, and aircraft types operating at PDX. An air traveler's decision to fly is highly volatile and based on these factors - most importantly cost.

The survey also assessed the impressions of the respondents to two different commercial service scenarios at Hillsboro Airport. When asked to rate their impressions of commercial air service at Hillsboro Airport that included 20-seat planes to one or two west coast cities, 54 percent of the respondents indicated that they "liked" this scenario, rating their support between eight and ten on a ten-point scale. For service with 50-seat planes

to several west coast cities, 49 percent of the respondents rated this between eight and ten on a ten-point scale.

Most notable was the increase in the "dislike" rating (a 1 to 4 rating on the ten-point scale) between these scenarios. For service with 20-seat planes to one or two west coast cities, 14 percent of the respondents disliked the idea. For the 50-seat plane scenario, 25 percent of the respondents disliked the idea. These responses indicate that the public views the 20-seat scenario as being commensurate with the current activities at Hillsboro Airport. The 50-seat regional jet scenario, on the other hand, was viewed as not being commensurate with existing Hillsboro Airport activities.

AIRLINE BUSINESS ENVIRONMENT

The U.S. airline industry is commonly divided into major airlines, national airlines, regional airlines, and commuter airlines. The major and national airline distinction is defined by annual revenues. Major airlines exceed revenues of $1 billion annually, whereas, the national airlines gross between $100 million and $1 billion annually. Examples of major air carriers include United, American, and Alaska. National airlines include Hawaiian Air and Sun Country Airlines.

Regional airlines are air carriers providing regularly scheduled passenger service with fleets composed primarily of aircraft having 100 seats or less. Regional carriers include Horizon Air and Skywest (in the state of Oregon, Skywest operates as United Express).

Dramatic growth in code-sharing agreements with the major carriers, followed by a wave of air carrier acquisitions and purchases of equity interests, has led to the regional airline industry being closely tied to their major airline partner. (In the most basic form, code-sharing agreements essentially allow for the regional/commuter airline partner's flights to be recognized in computer reservations systems as part of the major airline's system. This allows the mainline airline to sell tickets for both the regional/commuter airline and the mainline airline themselves.) With these agreements, the regional airlines have evolved from primarily independent air carriers, to air carriers being closely linked to the scheduling needs of the major air carrier. Many regional airline agreements with their major airline partner are provided a fee-for-departure, with the major airline determining the destination, aircraft type, and schedule.

Since the primary role of regional airlines is to feed traffic to their major airline partner, regional airlines provide service to smaller communities from the hub airport where the major airline operates. Recently, the regional airlines have begun to operate routes typically flown by their major airline partner. The regional airline can operate a lower density route more profitably than the major airline, as they operate smaller aircraft that are more closely matched to the number of travelers in a particular market.

Since regional airlines are so closely integrated with their major airline partner, regional airlines must operate at the same airport for ease of passenger connections with the major airline. These operations cannot be segregated between airports, even though the regional airline's aircraft could be operated at another airport where their major airline partner's aircraft could not operate. For example, while the aircraft Skywest uses could operate within the current pavement strength and runway length limits at Hillsboro Airport, they need to operate at PDX to provide convenient connections to United Airlines, their major network partner.

Prior to the first quarter of 2001, the large commercial air carriers had 24 consecutive profitable quarters. During that period, they had reported cumulative operating and net profits of $43.9 and $22.2 billion, respectively. Since the first quarter of 2001, the industry has incurred losses in each subsequent quarter. Cumulative and net losses through 2002 totaled $16.2 and $14 billion, respectively. These losses would have increased by $5 billion if it had not been for the Federal government aid package to U.S. airlines in FY 2003.

The dramatic turn-around in industry profits is due to a number of factors. First, the tenth economic recession since World War II began in March 2001, causing a downturn in passenger traffic. Second, the events of September 11, 2001, further reduced travel demand. In 2003, the SARS outbreak and war with Iraq impacted travel demand. The end of the economic recession in 2003, led to some nominal growth in late 2003 for air travel. With the gains in air travel, many of the major airlines were still experiencing financial difficulties.

Since September 11, 2001, six carriers have filed for bankruptcy and/or ceased operations due to the economic conditions. To combat the staggering losses, major U.S. airlines have instituted massive cost cutting programs, focusing on labor and capacity. The airlines have renegotiated labor contracts, retired older, less efficient aircraft, delayed delivery of new aircraft and transferred many routes to their regional partners.

Overshadowed by the overall industry losses are the strides the low-cost carriers are making. Low-cost carriers (i.e., Southwest Airlines, JetBlue, and Air Tran) continue to garner market share and generate operating profits. This is due to the lower operating costs and higher yields. A 2003 study by JP Morgan noted that low-cost carriers are making significant gains in total market share. Presently, low-cost carriers have 30 percent of the total passenger market. This could grow to 40 percent by 2006. Ultimately, low-fare operations could increase to 60-70 percent of the total market.

Despite the economic downturn and events of September 11 which have so significantly impacted the major air carriers, many regional and commuter air carriers have been able to maintain their previous flight schedules. Many have even increased their flight

schedules in response to the transfer of additional routes from their larger code-sharing partners.

Regional/commuter traffic continued to grow in 2002, enplaning 90.7 million passengers in the fiscal year. This is an increase of 8.5 percent from 2001.

Industry growth is expected to outpace that of the larger commercial air carriers. The introduction of new state-of-the-art aircraft, especially high-speed turboprops and regional jets with trip ranges of well over 1,000 nautical miles, is expected to open up new opportunities for growth in non-traditional markets. The regional airline industry will also continue to benefit from continued integration with the larger commercial air carriers. The further need for air carriers to reduce costs and fleet size will insure that they continue to transfer smaller, marginally profitable routes, to their regional and commuter partners.

Likewise, the increasing use of regional jets and high speed turboprops is expected to lead to more route transfers from the larger commercial air carriers to their regional/commuter partners, particularly on low-density routes in the 500-mile range. These aircraft can serve these markets with the speed and comfort of a large jet, while at the same time providing greater service frequency that is not economically feasible with the speed and comfort of a large jet.

The FAA does not expect recovery for the U.S. airline industry until 2005, when U.S. passenger enplanements are projected to reach year 2000 levels. **Table 2A** summarizes FAA forecasts for total scheduled U.S. passenger traffic as summarized in the FAA's most recent forecast document: *FAA Aerospace Forecasts, Fiscal Years 2003-2014*. The FAA projects U.S. Large Air Carriers to grow at 3.6 percent annually from 2002 to 2014. In contrast, the combined enplanements for regional and commuter air carriers are projected to grow at 5.6 percent annually over the same period.

U.S. CITIES SERVED BY MORE THAN ONE COMMERCIAL SERVICE AIRPORT

Prior to examining the potential for scheduled airline service at Hillsboro Airport, it is appropriate to review the characteristics of U.S. cities that are served by more than one commercial service airport. This can help identify if there are potential market opportunities that could be captured at Hillsboro Airport. It may also indicate the characteristics within other communities that are not applicable to the Portland-Vancouver metropolitan area.

TABLE 2A
FAA National Enplanement Forecasts

Year	U.S. Regional/Commuter Airline (millions)	U.S. Large Air Carriers (millions)	Total Scheduled U.S. Passenger Traffic (millions)
Historical			
1997	64.3	567.1	631.4
1998	67.8	576.9	644.7
1999	76.0	589.8	665.8
2000	81.5	614.8	696.3
2001	83.6	599.8	683.4
2002	90.7	536.9	627.6
Forecasts			
2003	97.1	549.8	646.9
2004	106.6	573.2	679.8
2005	114.0	595.1	709.1
2010	146.4	707.6	854.0
2014	174.0	822.2	996.2

Source: *FAA Aerospace Forecasts, Fiscal Years 2003-2014*

The NPIAS is the primary national airport planning document. This document includes those airports that are most important to interstate air travel. The NPIAS classifies commercial service airports as either a primary commercial service airport (an airport that support over 10,000 annual passengers) or as a non-primary commercial service airport (an airport that serves fewer than 10,000 passengers annually). **Table 2B** summarizes the communities with two or more commercial service airports in NPIAS. The Year 2003 population of the service area for each of these airports is also included for comparison to the Portland-Vancouver metropolitan area (which is noted at the top of the table). While there are many extended metropolitan areas in the United States that are served by more than one commercial service airport (i.e., Los Angeles, San Francisco, New York, Washington, D.C.), the airports in these metropolitan areas are in distinct statistical and economic areas. For example, in the Los Angeles metropolitan area, Ontario International Airport is listed in a separate Metropolitan Statistical Area (MSA) from Los Angles International Airport. For these reasons, the communities of Los Angeles, San Francisco, New York, and Washington, D.C., have been excluded from this analysis.

Table 2B presents population and enplanement data for nine communities across the U.S. with one commercial service airport in the NPIAS (Portland is noted only for comparison purposes). With the exception of Anchorage, Alaska; Seattle, Washington; Orlando, Florida; and Las Vegas, Nevada; the remaining communities have a population substantially greater than the Portland-Vancouver

metropolitan area and serve a significantly larger number of passengers. Therefore, these communities do not have as direct of a correlation to the Portland-Vancouver market as the others and cannot be relied upon to derive an understanding of the potential market in Portland for a second commercial passenger airport.

TABLE 2B
Communities with More Than One
Primary Commercial Service Airport in the NPIAS

Community	Airport Name	2003 Population	2002 Enplanements[2]
Portland, Oregon PMSA*		2,034,730	
	Portland International		6,115,728
Anchorage, Alaska MSA		270,660	
	Lake Hood SPB		2,756
	Ted Stevens Anchorage International		2,390,821
Chicago, Illinois PMSA		8,492,430	
	Chicago O'Hare International		31,627,040
	Chicago Midway		7,874,507
Dallas/Ft. Worth, Texas PMSA		3,785,470	
	Dallas Love		2,815,689
	Dallas-Ft. Worth International		24,754,807
Detroit, Michigan PMSA		4,482,410	
	Detroit Metropolitan-Wayne County		15,514,195
	Detroit City [1]		---
Houston, Texas PMSA		4,442,130	
	Ellington		42,578
	Bush Intercontinental		15,854,284
	Houston Hobby		3,819,284
Las Vegas, Nevada MSA		1,757,220	
	Henderson		---
	McCarran International		15,781,720
	North Las Vegas		69,755
New York PMSA		9,456,130	
	John F. Kennedy International		14,369,331
	La Guardia		11,068,411
Orlando, Florida MSA		1,785,710	
	Orlando Sanford		509,576
	Orlando International		12,902,363
Seattle, Washington PMSA		2,506,000	
	Seattle-Tacoma Int'l		12,959,567
	Boeing Field/King County Int'l		7,436

[1] No service since 1999.
[2] Typically one-half of an airport's total passengers
* For comparison only
Source for Population Data: 2003 Complete Economic and Demographic Data Source (CEDDS), Woods and Poole Economics
Source for Enplanement Data: FAA
MSA – Metropolitan Statistical Area
PMSA – Primary Metropolitan Statistical Area

The Portland-Vancouver MSA is slightly larger than the Orlando, Florida, and Las Vegas, Nevada, markets. However, each of these markets enplanes a significantly larger number of air travelers. The combined commercial service airport enplanements in Las Vegas, Nevada, in 2002 were 15.8 million. The Orlando market enplaned 13.4 million air travelers. For comparison, PDX enplaned 6.1 million passengers in 2002.

McCarran International Airport served all scheduled airline service in that market. The enplanements at North Las Vegas airport were attributable to Grand Canyon air tours. While Orlando International captures most air travelers to the region, Orlando Sanford serves a large number of international charters and scheduled flights from national airlines.

The Las Vegas and Orlando visitor markets are significantly larger than the Portland area and each has one or more world-renowned tourist attractions. According to the Portland Visitors Association, there are approximately 7.1 million visitors to the Portland metropolitan area annually and approximately 28 million in the entire State of Oregon. According to the Orlando/Orange County Convention and Visitors Bureau, there have been more than 40 million visitors each year to Orlando since 1999. According to the Las Vegas Convention and Visitors Authority, there are more than 33 million visitors to Las Vegas annually.

The Seattle, Washington MSA has approximately 471,000 more residents than Portland. Combined, the commercial service airports in Seattle enplane nearly 13.0 million passengers annually. The Seattle Convention and Visitors Bureau estimates that there are more than 8.5 million visitors to the City of Seattle each year. Air service at King County International/Boeing Field consists of scheduled helicopter and fixed wing travel to Vancouver, British Columbia, Canada as well as regularly scheduled service to the San Juan Island Port Angeles using turboprop aircraft. There are no U.S. domestic destinations served presently from Boeing Field. This is similar in many respects to Las Vegas, where the second commercial service airport serves a unique aspect of the local tourist market.

Similar to Orlando and Las Vegas, it would appear that the second commercial service airport in Seattle supports a unique travel aspect of that market. Therefore, these markets do not provide any similarities for potential markets development at Hillsboro Airport.

Anchorage, Alaska, has a lower population and enplanement level. Lake Hood Seaplane base is co-located with Anchorage International Airport and only has water runways. Lake Hood serves small air taxi and air tour operators. The characteristics of Lake Hood Seaplane Base are not comparable to the Portland-Vancouver area.

According to Metro Regional Government data, the Portland-Vancouver population is projected to grow by ap-

proximately 800,000 over the next 22 years, growing from 2.0 million in 2003, to 2.8 million in 2025 (see Table 2B). **Table 2C** summarizes metropolitan areas in the United States that have existing populations within the projected population growth range of the Portland-Vancouver metropolitan area. The commercial service airports in those markets are also identified. The intent of this comparison is to identify if there is a potential for a second commercial service airport in the Portland-Vancouver area, should the population grow as projected by Metro.

TABLE 2C
Commercial Service Airports in Similarly-Sized Communities

MSA	Airport Name	2003 Population	2002 Enplanements
Nassau-Suffolk, NY	Long Island – MacArthur	2,811,540	961,573
St. Louis, MO – IL	Lambert-St. Louis International	2,648,500	12,452,597
Baltimore, MD	Baltimore-Washington International	2,634,740	9,329,844
Tampa-St. Petersburg-Clearwater, FL		2,517,960	
	St. Petersburg-Clearwater Int'l		267,514
	Tampa International		7,669,694
Seattle, WA		2,506,000	
	Seattle-Tacoma International		12,559,567
	Boeing Field/King County Int'l		7,436
Oakland, CA	Metropolitan Oakland International	2,502,920	6,087,773
Pittsburgh, PA	Pittsburgh International	2,350,060	8,966,407
Miami, FL	Miami International	2,333,720	13,910,802
Cleveland-Lorain-Elyria, OH	Cleveland-Hopkins International	2,254,200	5,130,345
Denver, CO	Denver International	2,239,610	16,929,111
Newark, NJ	Newark	2,064,930	14,523,556
Portland-Vancouver, OR-WA	Portland International	2,034,730	6,115,728

Source for Population Data: 2003 Complete Economic and Demographic Data Source (CEDDS), Woods and Poole Economics

Only two of the twelve communities shown in Table 2C with existing populations falling within the current and Year 2025 projected population growth range of the Portland-Vancouver metropolitan area support more than one commercial service airport. Those are Seattle, Washington, and Tampa/St. Petersburg, Florida. The characteristics of Seattle, Washington, were discussed earlier.

Similar to Orlando, the Tampa/St. Petersburg area is a resort destination. Combined, total visitors to the Tampa/St. Petersburg area is approximately 20 million annually. The St. Petersburg/Clearwater Airport is served by nine airlines providing both domestic and international service. Service includes large transport aircraft. The St. Petersburg/Clearwater area is located on the west side of the Tampa Bay, along the gulf coast beaches. The proximity to the beaches and resorts supports the specialized airlines serving this specialized market.

While there are many communities in the United States that are served by more than one commercial service airport, none of these communities are similar to the Portland-Vancouver area. Either the communities with two airports have a larger population or they have a significantly larger air travel market that is driven by their resort/tourist destination characteristics. In similarly-sized communities to Portland-Vancouver, the secondary commercial service airport serves a unique tourist attraction that is not present in the Portland-Vancouver market.

HILLSBORO AIRPORT CAPABILITIES

It is important to derive an understanding of the type of aircraft that could operate at Hillsboro Airport, prior to examining other future potential roles of the facility and in particular commercial air passenger and/or air cargo market opportunities. The size of aircraft that can operate at the airport will dictate a number of key factors, including: the maximum flight distance from the airport and the destinations that could be served, the aircraft seating size and minimum number of passengers needed to profitably serve the market, and capital requirements at the airport such as apron area, terminal building size, and automobile parking needs.

In addition to meeting the regulatory requirements listed above, the airport that an air carrier would operate from must also provide sufficient runway length and pavement strength to accommodate the operations of the air carrier. **Table 2D** summarizes representative narrow body turbojet aircraft presently used by U.S. air carriers. Information on maximum takeoff weight, runway departure length, landing length, seating capacity, and range is also presented.

Runway 12-30 is 6,600 feet long and offers a pavement strength rating of 50,000 pounds single wheel (SW) loading, 70,000 pounds dual wheel (DW) loading, and 110,000 pounds dual tandem wheel (DTW) loading.

Examining the maximum gross weights of aircraft within **Table 2D**, it is evident that the overwhelming majority of those aircraft exceed the pavement strength ratings at the airport. With the exception of the Boeing 757 (which has a dual tandem wheel loading configuration), all remaining aircraft have dual wheel configurations. Therefore, using pavement strength as the first criterion to determine the type of aircraft that could currently operate at Hillsboro Airport, only 14 of the 45 models of aircraft listed in the table could regularly operate at Hillsboro Airport. This includes nine models of regional jets. The remaining aircraft models would be excluded from regularly operating at Hillsboro Airport, without first increasing the runway, taxiway, and apron area pavement strengths at the airport; and in some cases, extending the runway.

TABLE 2D
Representative Narrow Body
Air Carrier Turbojet Aircraft

Aircraft	Gross Weight (lbs.)	Number of Seats	FAA Takeoff Field Length (ft.)	FAA Landing Field Length (ft.)	Range (miles)
Airbus A318	149,910	107	4,200	-	3,700
Airbus A319	166,500	124	4,800	4,700	4,200
Airbus A320-200	169,800	150	5,900	4,800	3,500
Airbus A321-100	187,400	185	6,300	5,000	2,700
Airbus A321-200	205,000	185	7,100	5,200	3,500
BAe 146-100	**84,000**	**70-85**	**3,650**	**3,500**	**1,200**
BAe 146-200	93,000	80-100	3,880	3,700	1,300
BAe 146-300	97,500	95-112	4,670	3,950	1,300
Boeing 717-200	121,000	106	5,750	5,000	2,371
Boeing 727-200	191,500	145	10,000	5,300	2,240
Boeing 737-200	116,000	120	8,970	4,580	2,840
Boeing 737-300	124,500	126	6,660	4,580	2,600
Boeing 737-400	138,500	147	7,730	4,880	2,370
Boeing 737-500	115,500	110	6,100	4,450	2,740
Boeing 737-600	143,500	110	5,900	4,400	3,511
Boeing 737-700	154,500	126	5,500	4,700	3,873
Boeing 737-800	174,200	162	7,350	5,450	3,522
Boeing 737-900	174,700	177	7,900	5,450	3,136
Boeing 757-200	255,000	200	7,700	5,100	4,489
Boeing 757-300	273,000	243	8,650	5,750	3,908
Boeing DC9 Series 10	**90,700**	**85**	**6,500**	**4,470**	**1,300**
Boeing DC9 Series 20	**98,000**	**85**	**5,080**	**3,800**	**1,400**
Boeing DC9 Series 30	108,000	110	7,410	4,070	1,340
Boeing DC9 Series 40	114,000	120	7,410	4,120	1,120
Boeing DC9 Series 50	121,000	135	8,300	4,230	1,260
Boeing MD-81	140,000	143	6,150	5,080	1,770
Boeing MD-82	149,500	143	7,550	5,300	2,400
Boeing MD-83	160,000	143	8,100	5,800	2,900
Boeing MD-87	140,000	117	6,100	5,080	2,730
Boeing MD-88	149,500	143	6,650	5,400	2,400
Boeing MD-90-10	139,000	139	6,500	4,565	-
Boeing MD-90-30	156,000	153	6,400	1,445	-
Boeing MD-90-40	163,500	208	7,200	5,545	-
Bombardier CRJ200 (LR)	**53,000**	**50**	**6,290**	**4,850**	**2,307**
Bombardier CRJ700 (ER)	**75,000**	**70**	**5,500**	**4,850**	**2,284**
Bombardier CRJ900 (ER)	**82,500**	**90**	**6,462**	**5,136**	**1,993**
Embraer ERJ 135 LR	**44,092**	**37**	**5,577**	**4,363**	**1,956**
Embraer ERJ 140 LR	**44,517**	**44**	**6,463**	**4,495**	**1,875**
Embraer ERJ 145	**45,415**	**50**	**5,839**	**4,495**	**1,220**
Embraer ERJ 170 LR	**82,012**	**70**	**5,541**	**3,868**	**2,417**
Embraer ERJ 175 LR	**85,958**	**78**	**6,365**	**4,035**	**2,186**
Embraer ERJ 190 LR	**109,129**	**98**	**6,194**	4,166	2,647
Embraer ERJ 195 LR	110,209	108	6,814	4,330	2,071
Fokker 70	**92,000**	**70-80**	**3,545**	**3,855**	**2,300**
Fokker 100	**101,000**	**100-109**	**4,280**	**4,180**	**2,100**

Source: Aviation Week and Space Technology

Aircraft shown in bold can operate within the pavement strength and runway length limitations present at Hillsboro Airport

It should be noted that the Port, on occasion, allows aircraft exceeding the pavement strength rating to land at the airport (i.e., the annual air show). However, to maintain the integrity of the pavement, the number of such landings is tightly controlled. Therefore, if there were to be regular use of the airfield (i.e., daily landings) of aircraft over the pavement strength ratings, the pavement strength would need to be upgraded.

The BAe, Bombardier and Embraer aircraft are regional jets. Their use in the U.S. national transportation system has been primarily for regional airlines providing passengers to their major network partner's hub locations. As shown in Table 2D, these aircraft would have a range up to 2,300 nautical miles from Portland. This would include all west coast metropolitan areas and extend to the east to Chicago and southeast to Houston. To operate these aircraft on a scheduled basis at Hillsboro Airport, the airport would have to first become FAR Part 139 certificated.

Table 2E summarizes representative turboprop aircraft in the national regional/commuter airline fleet. All of these aircraft would be able to operate within the pavement strength and runway length limitations of Hillsboro Airport. The maximum stage length is 1,500 nautical miles for the Bombardier Q400. This would allow flights from Portland to Denver. Most of the remaining aircraft have stage lengths less than 1,000 miles, which would only allow service to regional population bases on the west coast.

However, it should be noted that there would be varying regulatory compliance requirements before the airport could allow the use of turboprop aircraft in scheduled service at the airport. Based on the number of seats, the aircraft shown in *italics* in Table 2E would require that Hillsboro Airport be FAR Part 139 certificated prior to their use in commercial air service at the airport. The aircraft shown in a bold text could operate at the airport without a certification requirement. However, they would need to be configured for fewer than 10 passenger seats. As mentioned previously, these aircraft are not used extensively in scheduled airline service in the continental United States.

TABLE 2E
Representative Air Carrier
Turboprop Aircraft

Aircraft	Gross Weight (lbs.)	Number of Seats	FAA Takeoff Field Length (ft.)	FAA Landing Field Length (ft.)	Range (miles)
ATR 42-400	*39,462*	*48*	*3,904*	*3,688*	*949*
ATR 42-500	*41,005*	*48*	*3,822*	*3,694*	*966*
ATR 72-200	*47,400*	*66*	*4,625*	*3,953*	*1,015*
ATR 72-210	*47,400*	*66*	*3,970*	*3,440*	*910*
ATR 72-500	*48,500*	*68*	*4,012*	*3,438*	*821*
BAe ATP	*52,200*	*64-72*	*4,430*	*3,700*	*530*
BAe Jetstream 31	15,212	19	4,800	4,000	242
BAe Jetstream 32EP	16,204	19	4,700	3,700	367
BAe Jetstream 41	24,000	29	4,400	4,400	611
Cessna 208B Grand Caravan	**8,750**	**9-14**	**2,420**	**1,795**	**1,338**
Bombardier Dash 7 Series 100	*44,000*	*50-54*	*2,250*	*2,160*	*795*
Bombardier Q100	*36,300*	*37-39*	*3,250*	*2,560*	*1,269*
Bombardier Q200	*36,300*	*37-39*	*3,280*	*2,560*	*1,155*
Bombardier Q300	*43,000*	*50-56*	*3,865*	*3,415*	*1,063*
Bombardier Q400	*64,500*	*68-78*	*4,265*	*4,221*	*1,565*
Embraer EMB-120	26,433	30	5,118	4,528	800
Fairchild Merlin 23	**16,500**	**6-14**	**5,400**	**2,605**	-
Fairchild Metro 3	14,500	19	4,400	4,092	-
Fairchild Metro 23	16,500	19	5,503	4,609	1,266
Pilatus PC-12	**9,920**	**9**	**2,300**	**1,830**	**-**
Beechcraft 1900C	16,600	19	3,800	2,450	723
Beechcraft 1900D	17,120	19	3,813	2,380	606
Saab 340	*29,000*	*30-37*	*3,830*	*3,258*	*857*
Saab 2000	*50,265*	*50-58*	*4,235*	*4,193*	*1,350*

Source: Aviation Week and Space Technology

AIRLINE REQUIREMENTS

To add new service or to improve existing service, an airlines needs to ensure that the service to a new airport would be more beneficial to their long-term goals than initiating service at a new airport or expanding services at an existing airport in their system. Their evaluation includes many factors, most proprietary and specific to the airline. However, for all airlines the decision to initiate new service revolves around three common factors:

- Adequate Facilities
- Community Support
- Route Profitability

Adequate Facilities

A number of facilities must be in place to serve the passenger handling and flight operations of scheduled airline service. This includes a terminal building that provides areas for airline management, passenger ticketing, bag claim, and passenger screening and secure holding prior to flight. An

apron area adequate for the size of aircraft using the airport must be available. Sufficient automobile parking must be available for passengers.

Presently, the Port of Portland owns the Hillsboro Airport terminal building. This building currently serves a number of aviation-related and non-aviation tenants, including two rental car companies. The primary aircraft operation from the terminal building is a private shuttle service which now occupies most of the first floor of the terminal and the terminal apron. The terminal vehicle parking lot is typically full supporting this shuttle operation.

The present terminal building does not provide ticket counters or baggage claim areas. A significant reconfiguration of the terminal building would be required to accommodate scheduled airline service. Substantial expansion of the public parking area would be required to serve the additional public parking needs of the scheduled airline passengers.

The Air Carrier Access Act of 1986 requires that an air carrier/commuter service airport either have loading bridges or equipment to assist the boarding of disabled passengers where level entry is not available. Hillsboro Airport is not equipped with loading bridges, nor does it have a disabled person lift. This arrangement would need to be met prior to initiating airline service at Hillsboro Airport.

Of special consideration with all scheduled airline activities are new requirements for passenger checked baggage and departure screening. Following the events of September 11, 2001, the federal government passed the *Aviation and Transportation Security Act*. This law created the Transportation Security Administration (TSA) to administer air transportation security. With this law, the TSA took responsibility for conducting check point passenger screening and was responsible for checked baggage screening. The law requires security screeners to be employees of the Federal government, except for a few limited situations when the airport can request contract security screeners funded by the TSA.

Therefore, prior to establishing any new scheduled airline service at Hillsboro Airport, the TSA must fund security screening at Hillsboro Airport. In 2003 and 2004, the TSA was reducing their security staff nationwide to meet congressionally mandated staffing size. Furthermore, the TSA was focusing their capital funding requirements on the installation of in-line automated baggage screening devices at major airports, to meet explosive detection requirements of the law. Without the support of the TSA, scheduled airline service could not be established at Hillsboro Airport.

Community Support

There are more airports desiring air service than there are airlines and aircraft to provide the air service. Communities across the country have implemented extensive programs to

initiate or increase air travel. These include marketing support for the airlines and establishing travel banks. Travel banks are essentially pledges from the community to spend a certain amount of their travel funds on the new airline service. The cost of initiating service is high and it takes an airline a significant amount of time to recover this cost. Operating subsidies typically are also provided to help offset this initial investment by an airline.

In most cases, the establishment of new service at an airport never previously served by airline service involves a combination of these arrangements for airlines. Without a community actively pursuing an airline candidate, it is not likely that new service will be established. There is no active program within the Port or the community to provide marketing or operational subsidies to an airline for service at Hillsboro Airport.

Route Profitability

The primary factor for route expansion for an airline is profitability. Profitability is a direct result of load factors. The more passengers on each flight increases load factors and revenue for an airline. Any airline choosing to operate from Hillsboro Airport will consider the number of passengers that could be captured for each destination.

For Hillsboro Airport, the potential passenger market that could be captured would be limited to the western areas of the metropolitan area, specifically Washington County, Yamhill County, and Columbia County residents. It is not anticipated that residents in Clark County Washington or residents of Multnomah or Clackamas Counties in Oregon would by-pass PDX to fly from Hillsboro Airport. This would increase their current travel times and distances.

The combined population of Washington County, Yamhill County, and Columbia County is approximately 591,000. This is approximately 30 percent of the entire metropolitan area. Route profitability is more fully addressed in the discussion of market viability.

Hillsboro Airport currently does not provide adequate terminal facilities, public parking, security or certification to allow most commercial air carrier operations. These capital and operational needs would need to be implemented prior to accommodating most types of scheduled air service at Hillsboro Airport. Although through the Port sponsored Hillsboro Community Survey there has been shown some support for potential airline service at Hillsboro Airport, there is currently not an organized travel bank or program to attract an airline to Hillsboro Airport.

COMPETITIVE FACTORS

The primary factors that influence passenger selection for air service include: type of aircraft, low fares, convenient departure times, and nonstop service. Jet aircraft are preferred over

turboprop aircraft for their speed, perceived level of safety, and comfort due to bigger cabins and reduced vibration levels. The range of jet aircraft operating at PDX include most models of the Airbus and Boeing fleets, including narrow body and wide body transport aircraft. As shown earlier, Hillsboro Airport is presently not capable of accommodating these aircraft. Therefore, aircraft service from Hillsboro Airport could not directly compete with the type of aircraft offered by the air carriers at PDX.

The best type of air service that could be provided from Hillsboro Airport would be from regional jet aircraft. Regional jets can operate within the pavement strength and runway length limitations of Hillsboro Airport. Regional jet aircraft are gaining greater acceptance with the traveling public due to their speed and conveniences, which are similar to that of the major airline aircraft. If regional jet service was provided from Hillsboro Airport, it can be expected that this would not be viewed by the public as an inferior service to that of PDX. However, if only turboprop aircraft service was provided at Hillsboro Airport, this service would be at a considerable competitive disadvantage with PDX. As noted above, the traveling public preference is for turbojet aircraft.

At PDX, most major markets are served by more than one air carrier providing competition for price and schedule. PDX is also served by Southwest Airlines and other low-fare carriers. This supports lower fares for air travelers in the region. This removes a potential competitive advantage for an operator from Hillsboro Airport that could market lower fares than offered at PDX.

Table 2F summarizes fall 2003 nonstop destinations from PDX. In total, 48 markets were served by nonstop service from PDX, including most commercial service airports in Oregon. As shown in this table, non-stop service from PDX is available to all the major west coast destinations (i.e., Seattle, Los Angeles, San Diego, San Francisco Bay Area), all commercial service airports within the State of Oregon (i.e., Redmond, North Bend, Eugene, Klamath Falls) several western mountain communities (i.e., Boise, Spokane, Salt Lake City) and major U.S. airline hubs across the country (i.e., Phoenix, Las Vegas, Chicago O'Hare, Atlanta, Cincinnati). With all major markets being flown to from PDX, any service to/from Hillsboro Airport would directly compete with the destinations served from PDX, unless service was provided to an alternate airport such as Boeing Field in Seattle, Washington.

TABLE 2F
Non-Stop Destinations Served by Airlines
Operating Out Of Portland International Airport

Destination	
Albuquerque	Minneapolis/St. Paul
Anchorage	North Bend/Coos Bay
Atlanta	Newark
Billings	Oakland
Boise	Ontario
Burbank	Orange County
Chicago O'Hare	Pasco
Cincinnati	Pendleton
Dallas/Fort Worth	Phoenix
Denver	Redding
Detroit/Metro	Redmond/Bend
Eugene	Reno
Eureka/Arcata	Sacramento
Frankfurt	Salt Lake City
Fresno	San Diego
Guadalajara	San Francisco
Honolulu	San Jose
Houston Intercontinental	Santa Barbara
Kahului Maui	Seattle
Kansas City	Spokane
Klamath Falls	St. Louis
Las Vegas	Vancouver, B.C.
Los Angeles	Washington D.C./Dulles
Medford	

Source: Port of Portland

A summary of the top 20 destinations for PDX is provided in **Table 2G**. The destinations are ranked according to the number of air travelers to each market. For 2001, the last full year of available data for PDX, Los Angeles was the top destination, with 561,830 passengers. In total, the top 20 markets for PDX accounted for over six million passengers or approximately half of the 12.7 million total passengers at PDX in 2001.

TABLE 2G
Market Capture Analysis (Optimal Load Factor)

Rank	Destination	Distance (nm)	2001 Passengers	2001 Avg. Daily Departures	Annual Seats to Fill	Required Capture %
Regional Jet Scenario						
1	Los Angeles, CA	836	561,830	10.0	67,900	12%
2	San Jose, CA	568	494,480	11.0	67,900	14%
3	Las Vegas, NV	770	464,400	6.3	67,900	15%
4	Phoenix, AZ	1,018	440,110	10.4	67,900	15%
5	Oakland, CA	541	431,470	9.7	67,900	16%
6	Sacramento, CA	477	400,100	9.2	67,900	17%
7	San Francisco, CA	548	390,440	14.2	67,900	17%
8	San Diego, CA	936	312,590	4.0	67,900	22%
9	Salt Lake City, UT	644	272,760	6.8	67,900	25%
10	Denver, CO	999	260,870	7.7	67,900	26%
11	Boise, ID	360	252,700	8.6	67,900	27%
12	Spokane, WA	296	251,080	9.4	67,900	27%
13	Orange County, CA	863	236,820	2.8	67,900	29%
14	Chicago (O'Hare), IL	1,753	219,430	7.3	67,900	31%
15	Ontario, CA	842	200,770	2.8	67,900	34%
16	Reno, NV	448	195,520	3.1	67,900	35%
17	Burbank, CA	820	172,170	2.8	67,900	39%
18	Dallas/Ft. Worth, TX	1,629	157,170	5.1	67,900	43%
19	Seattle, WA	136	151,670	39.9	67,900	45%
20	Baltimore, MD	2,370	148,840	NA	NA	NA
30-Seat Turboprop Scenario						
1	Los Angeles, CA	836	561,830	10.0	NA	NA
2	San Jose, CA	568	494,480	11.0	40,700	8%
3	Las Vegas, NV	770	464,400	6.3	40,700	9%
4	Phoenix, AZ	1,018	440,110	10.4	NA	NA
5	Oakland, CA	541	431,470	9.7	40,700	9%
6	Sacramento, CA	477	400,100	9.2	40,700	10%
7	San Francisco, CA	548	390,440	14.2	40,700	10%
8	San Diego, CA	936	312,590	4.0	NA	NA
9	Salt Lake City, UT	644	272,760	6.8	40,700	15%
10	Denver, CO	999	260,870	7.7	NA	NA
11	Boise, ID	360	252,700	8.6	40,700	16%
12	Spokane, WA	296	251,080	9.4	40,700	16%
13	Orange County, CA	863	236,820	2.8	NA	NA
14	Chicago (O'Hare), IL	1,753	219,430	7.3	NA	NA
15	Ontario, CA	842	200,770	2.8	NA	NA
16	Reno, NV	448	195,520	3.1	40,700	21%
17	Burbank, CA	820	172,170	2.8	NA	NA
18	Dallas/Ft. Worth, TX	1,629	157,170	5.1	NA	NA
19	Seattle, WA	136	151,670	39.9	40,700	27%
20	Baltimore, MD	2,370	148,840	NA	NA	NA

TABLE 2G (Continued)
Market Capture Analysis (Optimal Load Factor)

Rank	Destination	Distance (nm)	2001 Passengers	2001 Avg. Daily Departures	Annual Seats to Fill	Required Capture %
19-Seat Turboprop Scenario						
1	Los Angeles, CA	836	561,830	10.0	NA	NA
2	San Jose, CA	568	494,480	11.0	25,800	5%
3	Las Vegas, NV	770	464,400	6.3	NA	NA
4	Phoenix, AZ	1,018	440,110	10.4	NA	NA
5	Oakland, CA	541	431,470	9.7	25,800	6%
6	Sacramento, CA	477	400,100	9.2	25,800	6%
7	San Francisco, CA	548	390,440	14.2	25,800	7%
8	San Diego, CA	936	312,590	4.0	NA	NA
9	Salt Lake City, UT	644	272,760	6.8	NA	NA
10	Denver, CO	999	260,870	7.7	NA	NA
11	Boise, ID	360	252,700	8.6	25,800	10%
12	Spokane, WA	296	251,080	9.4	25,800	10%
13	Orange County, CA	863	236,820	2.8	NA	NA
14	Chicago (O'Hare), IL	1,753	219,430	7.3	NA	NA
15	Ontario, CA	842	200,770	2.8	NA	NA
16	Reno, NV	448	195,520	3.1	25,800	13%
17	Burbank, CA	820	172,170	2.8	NA	NA
18	Dallas/Ft. Worth, TX	1,629	157,170	5.1	NA	NA
19	Seattle, WA	136	151,670	39.9	25,800	17%
20	Baltimore, MD	2,370	148,840	NA	NA	NA

Source: Port of Portland, Coffman Associates analysis.

The most viable markets for potential air service from Hillsboro Airport would be the highest density markets within the top ten. With the higher density markets, a small percentage capture of the total market could provide a large number of passengers for Hillsboro Airport. For example, capturing only 10 percent of the Los Angeles market could provide over 50,000 passengers annually at Hillsboro Airport, whereas with the Seattle market, to achieve the same level of passengers would require capturing 32 percent of the market.

These high density markets provide the greatest number of passengers for capture by an airline operating at Hillsboro. Since Hillsboro Airport would be competing with the established airline at PDX, which could offer larger aircraft types, and potentially more departures, it is expected that Hillsboro Airport could only capture a portion of each market with regional jet or turboprop service.

For Hillsboro Airport, it is not expected an airline operating at PDX would be a candidate airline for service at Hillsboro Airport. The regional airlines operating the type of aircraft that could land and depart at Hillsboro Airport feed connecting traffic to their major airline partner at PDX. Feeder operations cannot be segregated between airports since the

feeder relies on quick and convenient connections with the major airline partner. Quick and convenient connections could not be made between Hillsboro Airport and PDX.

The regional airline also operates routes that would ordinarily be flown by the major airline partner. For example, regional jet service is provided from San Francisco, San Jose, and Sacramento to Portland daily by the regional affiliate of a major air carrier.

Service at Hillsboro Airport could be offered by a new airline operating the types of aircraft capable of operating at Hillsboro Airport. This may be a start-up airline. Most of the existing regional airlines operating in the Northwest region of the United States code-share with a major airline. In some cases, these agreements restrict the regional airline from developing individual routes without the approval of the major airline partner. Therefore, these code-share agreements could inhibit existing regional airlines from independently developing new service at Hillsboro Airport. Regional airlines in the northwest and their code-share partners are listed below:

- Horizon Air – Alaska Airlines, Northwest Airlines, Continental Airlines.
- Skywest – United Airlines
- Mesa – America West
- Big Sky - Northwest Airlines, America West Airlines and Alaska Airlines

MARKET VIABILITY

An airline's decision to enter a market is purely a business decision based, in part, on the potential passenger market. The viability of airline service at Hillsboro Airport will be examined by first determining the number of annual passengers required to sustain certain levels of air service. The number of passengers will then be viewed as a percentage of the top PDX markets to determine what percentage of those markets must be captured at Hillsboro Airport to support air service in that market.

Three different levels of service will be examined in this section: regional jet service, 30-seat turboprop services, and finally 19-seat turboprop services. Regional airlines generally focus their operation on a particular aircraft type or seating capacity. These three scenarios are intended to represent typical regional airline operations in the United States.

The greater the frequency of flights, the more support there is for service in a city pair. Frequency of flights offers flexibility for the air traveler. At a minimum, two daily flights are needed to support air travel. However, three or more daily departures garners more support, as departure and landing times can be more closely matched to air travelers' schedules.

A review of the average number of departures for the PDX Top 20 markets

reveals that with the exception of Ontario and Orange County, each market had more than three daily departures. With this understanding, to effectively compete with service at PDX to the same destination, service at Hillsboro Airport would need to encompass at least three daily departures.

Nationwide, the regional/commuter airline industry achieves a load factor of approximately 62 percent. Essentially, this means that the regional/commuter airlines fill approximately 62 percent of the available seats. The available seats are determined by multiplying the aircraft seating by the number of daily flights. For the regional jet scenario, the total seats in the market would be 300 a day or 109,500 per year (assuming both arrivals and departures). Applying the 62 percent load factor to the total seats in the market results in a requirement that the airline fill approximately 67,900 seats each year for profitability.

For the 30-seat turboprop scenario, there are 65,700 total seats available each year. For profitability, the airline must fill approximately 40,700 seats annually. For the 19-seat turboprop scenario, there are a total of 41,610 seats annually. An airline must fill approximately 25,800 seats to be profitable.

Table 2G compares each regional scenario requirement for seats to be filled to the PDX Top 20 markets to determine the required capture rate within each market for airlines to profitably serve that market. Table 2G also examines the markets that could be served under each scenario. For the 30-seat turboprop scenario and 19-seat turboprop scenario, there are a number of the Top 20 markets that cannot be served with these aircraft due to these markets being outside the range of the typical turboprop aircraft.

For the regional jet scenario, only Baltimore, Maryland, could not be served by a typical regional jet now in the national fleet. As shown in Table 2G, to serve 40,700 annual passengers, requires capturing 14 percent of the San Jose, California market. This increases to 45 percent in the Seattle, Washington market.

For the 30-seat turboprop scenario, only 10 of the Top 20 markets could be served by a typical 30-seat aircraft. Service with this size of aircraft requires capturing eight percent of San Jose, California, market and 27 percent of the Seattle, Washington, market.

Only eight of the Top 20 markets could be served by a 19-seat turboprop aircraft. Service with this size of aircraft requires capturing five percent of the San Jose market and 17 percent of the Seattle, Washington, market.

Three of the PDX Top 20 markets have some level of turboprop service. This includes Boise, Spokane, and Seattle. The remaining markets are all served with turbojet aircraft ranging from the regional jet to transport aircraft such as the Boeing 737. Based upon this service differential, it is likely that service from PDX would be

chosen over service at Hillsboro Airport, should only turboprop service be provided at Hillsboro Airport to the same markets.

Therefore, the only likely turboprop markets would be the three listed above. Both Boise and Spokane are served with turboprop aircraft with greater than 35 passenger seats. Service to Seattle includes 30-seat turboprop aircraft. The turboprop aircraft with greater than 30 passenger seats include a flight attendant and restroom facilities. These aircraft are accepted more by the traveling public. This reduces the desirability of 19-seat turboprop service and decreases its chances of success in any markets that could be served from Hillsboro Airport.

Regional jet service from Hillsboro Airport would provide the best competitive advantages with PDX, since all of the top 20 markets are served with some level of turbojet service. The origin/destination capture rate at a second commercial service airport typically ranges up to 40 percent of the total origin/destination market. The higher capture rates are seen in markets where the secondary airport is served by the low-fare carriers (i.e., Houston and Chicago).

Without an easily recognized low-fare air carrier at the secondary airport (i.e., Southwest Airlines), the secondary airport could be expected to capture only a small portion of the passenger market, most likely below 15 percent. For Hillsboro Airport, this would leave only four potential regional jet markets: Los Angeles, San Jose, Las Vegas, and Phoenix. Otherwise, the air carrier would need to provide some level of continuing service to a market to generate the necessary passenger levels to support airline service. For example, a flight to Los Angeles could continue to San Diego.

COMMERCIAL PASSENGER AIR SERVICE POTENTIAL CONCLUSIONS

Portland International Airport provides significant competitive advantages over Hillsboro Airport that reduce the potential for establishing scheduled passenger air service at Hillsboro Airport. First, PDX is an operational and certificated commercial service airport. Hillsboro Airport has never been certificated for commercial service and has many capital improvement needs and regulatory requirements that must be met prior to establishing scheduled air service. These include:

- Establishing Part 139 certification,
- Obtaining TSA security personnel and security equipment for checked baggage and passenger screening,
- Upgrading terminal facilities that do not have ticketing or baggage claim facilities. The terminal apron and automobile parking areas are used by a private shuttle service. Additional apron area and public parking are needed to accommodate scheduled airline service. There are no loading bridges

or lifts to accommodate disabled passengers.

A review of communities across the country that support more than one commercial service airport indicated that there are no market similarities between Portland and these communities. Either these communities have a much larger population and air service market than Portland, or the secondary airport served a unique aspect of that community. For example, the secondary commercial service airport in Las Vegas provided air tours over the Grand Canyon.

Since PDX provides non-stop service to 48 destinations and all west coast destinations within the range of a regional jet or turboprop aircraft, service from Hillsboro Airport would compete directly with service from PDX. All the top 20 markets at PDX are served with jet service. Only three have some level of turboprop service with aircraft with 30 or more passenger seats. For this reason (and others stated in the preceding paragraphs of this section), 19-seat turboprop services are not considered feasible at Hillsboro Airport. The remaining markets would need to be priced competitively with PDX in order for Hillsboro Airport to capture any reasonable market share. There are only four potential regional jet markets for Hillsboro Airport; each of these markets is currently served by low-cost service from PDX.

With no community-based programs currently in place to attract air service (such as a travel bank or airline guarantee program to initiate new air service at Hillsboro Airport), it does not appear that commercial air service is being actively pursued within the community. Furthermore, there is no potential airline candidate to serve Hillsboro Airport. The four primary regional airlines serving Oregon and Washington currently provide feeder services for their code-sharing partners at PDX. While a start-up airline could serve the airport, start-up airlines are typically hampered by a lack of capital, operating funds, and name recognition, which proves difficult in maintaining reliable service. Since feeder service is provided now to Portland, scheduled airline service from Hillsboro Airport would strictly be origin/destination traffic to a specific market. The commercial airline industry is also in a restructuring and contraction period. The industry is reeling from significant losses due to the recent economic recession, events of September 11, 2001, SARS, and the war on terrorism. Given these considerations, it does not appear that scheduled airline service is feasible at this time for Hillsboro Airport.

AIR CARGO SERVICE POTENTIAL

The U.S. air cargo industry is a diverse collection of companies and services providing for the movement of freight by air. Air cargo in the U.S. and internationally is moved by the passenger airlines (more commonly referred to as “belly cargo” since the cargo being shipped by air is loaded into the lower half of the passenger aircraft, or its belly), mixed carriers

(those airlines that have both dedicated air cargo and air passenger aircraft in their fleet), integrated cargo carriers, and all-cargo companies. **Table 2H** summarizes the air cargo carrier types and their business characteristics.

TABLE 2H
Air Cargo Carriers And Their Business Characteristics

Air Cargo Carrier Type	Characteristics	Representative Carriers	Customers	Desired Airport Characteristics
Belly	Baggage holds of passenger aircraft.	Delta, United, American.	Wholesale, Mail, Retail	Passenger Airport
Mixed	Baggage holds of passenger aircraft and main decks of all-cargo aircraft.	Northwest, Lufthansa, EVA	Wholesale, Mail, Retail	Passenger Airport
Integrated	Main decks of all-cargo carriers	FedEx, UPS, Airborne Express	Retail, Mail	Airport near population base
All-cargo	Main decks of all-cargo carriers	Challenge, Air Cargo, Cargolux, Evergreen	Wholesale	Airport near population base

Source: Coffman Associates Analysis

Passenger airlines move freight during their regularly scheduled passenger flights. This segment of the air cargo industry does not appear to be feasible for Hillsboro Airport since, as discussed above, scheduled airline service at Hillsboro Airport does not appear feasible and the major air carriers operate from PDX. This leaves the only air cargo market opportunities for Hillsboro Airport, all-cargo carriers who do not necessarily need to operate from a passenger airport such as the integrated air carriers or all-cargo airlines.

The integrated air carriers are characterized by providing for both the ground and air transportation of freight. The all-cargo airlines rely on freight forwarders and other independent agents for ground transportation.

The integrated air carriers, feeders, and all-cargo carries serving PDX are listed in **Table 2J**. As shown in this table, PDX is served by four integrated carriers, eight all-cargo carriers, and two feeder carriers. Ameri-Flight and Empire Airlines provide feeder services for the integrated carriers to outlying communities in Oregon and Washington from PDX.

TABLE 2J
Cargo Carriers at PDX

Integrated Carriers	Feeders	All-Cargo Carriers
Airborne	AmeriFlight	Air China Cargo
DHL Worldwide Express	Empire Airlines	Kitty Hawk Cargo
Federal Express (FedEx)		Bax Global
United Parcel Service (UPS)		Emery Worldwide
		Evergreen Airlines
		Korean Air
		Western Air Express

Source: Port of Portland. Cargolux ceased operations out of PDX on October 26, 2003

The integrated air carriers are similar in many respects to the major air carriers. The integrated air carriers have established a network of hub airports across to the country to ensure the overnight delivery of packages to virtually any address in the U.S. These hub airports serve the large transport aircraft of the integrated air carrier. Feeder aircraft operate at outlying communities that do not have the capabilities to accommodate the large transport aircraft or have sufficient levels of freight to support a larger aircraft.

Table 2K summarizes the operational characteristics of representative aircraft within the existing integrated cargo fleets and all-cargo airline fleets. As evident in the table, Hillsboro Airport does not have the runway pavement strength or runway length, in some cases, to serve the large transport aircraft in either the integrated air carrier fleets or all-cargo fleets. The smaller aircraft in their fleets are feeder aircraft and cannot operate at an airport independently from the large transport aircraft. Therefore, based upon the infrastructure limitations at Hillsboro Airport, it does not appear that Hillsboro Airport could accommodate an integrated air carrier. Furthermore, the integrated air carriers operate under FAR Part 121. Similar to the commercial airlines, the airport would need to be FAR Part 139 certificated to accommodate the operations of these aircraft.

Hillsboro Airport could not serve the large transport aircraft operated by the all-cargo carriers either. The only aircraft that could be accommodated at Hillsboro Airport are the turboprop aircraft listed above. There are many all-cargo airlines operating versions of these turboprop aircraft. These aircraft are used for specialty, on-demand services. Aircraft such as the Jetstream 31 and Cessna Caravan have a payload capacity less than 7,500 pounds. These aircraft would operate under FAR Part 135 and could use Hillsboro Airport without any FAR Part 139 certification.

TABLE 2K
Representative Aircraft
Integrated Cargo Air Carriers and All-Cargo Airlines

Aircraft	Gross Weight (lbs.)	FAA Takeoff Field Length (ft.)	FAA Landing Field Length (ft.)	Range (miles)
Narrow Body Turbojet Transport Aircraft				
Boeing 727-200	191,500	10,000	5,300	2,240
Boeing DC9 Series 10	90,700	6,500	4,470	1,300
Boeing DC9 Series 30	108,000	7,410	4,070	1,340
Boeing DC- Series 40	114,000	7,410	4,120	1,120
Boeing DC8 Series 60	328,000	10,000	6,150	5,460
Wide Body Turbojet Transport Aircraft				
Boeing 767-200	300,000	5,500	4,850	4,589
Boeing DC-10	580,000	10,700	6,320	3,780
Boding MD-11	630,500	10,000	7,600	4,120
Boeing 747-200	833,000	10,900	6,200	6,876
Airbus A300-200	363,800	NA	NA	NA
Airbus A310-200	313,100	NA	NA	NA
Turboprop Aircraft				
BAe Jetstream 31	15,212	4,800	4,000	242
Shorts 360-300	27,100	4,280	4,220	978
Cessna 208B Super Cargomaster	8,750	2,420	1,795	1,338

Source: Aviation Week and Space Technology

AIR CARGO SERVICE POTENTIAL CONCLUSIONS

There is only a limited opportunity for air cargo services at Hillsboro Airport. This is a function of the structure of the air cargo industry and type of aircraft used for air cargo services, more than it is a function of the air cargo market in the Portland-Vancouver area.

Air freight is moved by both the passenger air carriers and all-cargo airlines. The cargo handling from the passenger and mixed airlines is only feasible at PDX where the passenger airlines operate.

The integrated all-cargo carriers utilize a combination of large transport aircraft and feeder aircraft at hub network locations. Integrated all-cargo service could not be established at Hillsboro Airport, since Hillsboro Airport does has neither the pavement strength nor the runway length needed to serve the large aircraft in the integrated airline fleet. Also, the airport neither has the available land to support the aircraft parking needs for these size aircraft nor the space for the required package sorting/handling/transfer facilities. The feeder operations of the integrated all-cargo airlines cannot be segregated to another airport. It is imperative that the feeder aircraft use the same airport for the convenient and efficient consolidation of freight.

The larger aircraft operated by all-cargo carriers would be prohibited from using Hillsboro Airport. An all-cargo airline that operates a turboprop or piston-powered fleet would be the

only type of air cargo operation that could be accommodated at Hillsboro Airport. These aircraft are similar in size to the existing fleet at Hillsboro Airport and could be easily integrated into existing airport operations.

OVERALL CONCLUSIONS REGARDING THE FUTURE ROLE OF HILLSBORO AIRPORT

Considering the organization of the air transportation industry as defined by FAA regulation (discussed above) and industry practices, there are four potential future roles or options for development that can be considered for Hillsboro Airport as outlined below:

1. **General Aviation/Reliever:** This is a continuation of the airport's existing role.
2. **General Aviation/Reliever That Also Supports Scheduled Commuter Airline Operations With Aircraft With Fewer Than 10 Passenger Seats:** This would be the extent of commercial air service that could be accommodated without FAR Part 139 certification.
3. **Commercial Service/Reliever:** This would be characterized by the airport primarily serving as a general aviation reliever for PDX, but also planning for the potential for scheduled airline activity with aircraft capable of carrying 10 or more passengers.
4. **General Aviation/Air Cargo:** This would be characterized by the airport primarily serving as a general aviation reliever for PDX, but also planning for the potential for air cargo.

Potential role one, **General Aviation/Reliever**, and potential role two, **General Aviation/Reliever That Also Supports Scheduled Commuter Airline Operations With Aircraft With Fewer Than 10 Passenger Seats**, can be accommodated within the existing infrastructure capabilities (runway length, pavement strength) of Hillsboro Airport and existing FAA regulatory environment. Commuter airline aircraft are permitted by FAA regulation to operate into Hillsboro Airport and do not require FAR Part 139 certification.

Potential role three, **Commercial Service/Reliever**, and potential role four, **General Aviation/Air Cargo** cannot be fully accommodated at Hillsboro Airport due to existing limitations of the pavement strengths and runway lengths and the absence of FAR Part 139 certification. As mentioned previously, Hillsboro Airport can only accommodate regular use by regional jet aircraft and smaller turboprop aircraft without increasing the existing pavement strengths and runway lengths at Hillsboro Airport. Without FAR Part 139 certification, the airport could only accommodate air carrier aircraft with fewer than 10 passenger seats.

Expansion or strengthening of the existing runway and taxiway system to support heavier commercial service aircraft cannot be economically or en-

vironmentally justified at this time, and is not supported by the local community or Port staff. Therefore, the selected role for Hillsboro Airport must remain within the existing infrastructure limitations at Hillsboro Airport (i.e., roles one and two).

Federal regulations prevent the Port from specifically excluding certain classes of aircraft operating from the airport. For example, the Port cannot, by policy, exclude commercial air service aircraft and only accommodate general aviation aircraft. Nor can the Port set a limitation on the size of commercial aircraft that it would allow to operate at the airport. For example, the Port could not allow the use of the airport by 30 or 50-seat passenger aircraft, but exclude aircraft with larger seating capacities. However, current federal policy allows the airport to limit operations by aircraft that exceed pavement strength limitations at the airport. Therefore, any future role for Hillsboro Airport that considers potential roles three and four would, by regulation, need to accommodate all those aircraft that can operate within the existing pavement strength and runway length limitations of the airport.

In essence, federal regulations and policy require that the Port allow non-FAR Part 139 commercial passenger service and air cargo operations as long as they are compatible with the Airport's infrastructure and there is space at Hillsboro Airport to support their operation. Title 49, Sec. 44706, Para (f), of U.S. Code, does give the Port the authority to decline Part 139 certification for Hillsboro Airport if the Port, as a policy, desires not to pursue certification.

As discussed above, initiating new scheduled passenger airline and/or air cargo activity at Hillsboro Airport would be difficult. Any airline would face considerable risk and challenges including: limited market opportunities, lack of suitable facilities for their operation, and considerable competition from PDX. Therefore, it does not appear that the potential for roles two, three, and four is strong enough to change the role of the airport at this time. The existing role of the airport (role one), as a growing business-class general aviation/reliever airport, is the most likely role for Hillsboro Airport in the future.

The Port's overall mission is to provide competitive cargo and passenger access to regional, national and international markets, while enhancing the region's quality of life. The Aviation mission is to operate, maintain and promote an airport system that satisfies the air transportation needs of its customers by providing competitive cargo and passenger access to regional, national and international markets. Since general aviation contributes to moving cargo and passengers around the region, nation, and world, maintaining the same role for Hillsboro Airport allows the Port to directly meet these missions.

The Port recognizes that the potential for business conditions to change or for an airline to develop a business plan around the infrastructure limita-

tions at Hillsboro Airport cannot be excluded from future consideration. Therefore, while this Master Plan will forecasts facilities to accommodate the growing business-class general aviation/reliever activities associated with role/option one at the Hillsboro Airport, the alternatives analysis to follow will recognize and consider the potential for accommodating roles/options two, three and four in limited iterations of each within the future land use schematics for Hillsboro Airport. The Port recognizes that any aircraft operations associated with these distant future, optional roles will need to be compatible with Hillsboro Airport's existing airport infrastructure (i.e., regional jets and small cargo feeder aircraft with operating weights not to exceed 100,000 lbs. and capable to safely operate on a 6,600-foot runway). Further, the Port recognizes that any future shift from the existing design standards will have to be economically, politically and environmentally justified at that time and will not be pursued within this Master Plan.

SUMMARY

Ensuring that Hillsboro Airport can continue to accommodate general aviation activity, aids the Port in implementing the objectives of the *2000 Portland International Airport Master Plan.* The *2000 Portland International Airport Master Plan* called for "Strategies to Preserve Capacity." By accommodating general aviation activity at Hillsboro Airport, the capacity of the runway system is maximized at PDX and the need for a third parallel runway at PDX reduced.

Hillsboro Airport is the most capable general aviation airport in the metropolitan region as well as near the Portland central business district. The capabilities of Hillsboro Airport cannot be duplicated at another regional airport without significant capital investments. Therefore, Hillsboro Airport should continue to be developed primarily for general aviation services. The analysis to follow will detail the specific aspects of the general aviation industry that are expected to be accommodated at Hillsboro Airport.