Airport Master Plan For The
South Suburban Airport Project

PROJECTIONS OF AERONAUTICAL ACTIVITY FOR THE INAUGURAL AIRPORT PROGRAM SOUTH SUBURBAN AIRPORT

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Introduction

Section 1 - Methodology for Projections of Aeronautical Activity for the Inaugural Airport Program at the South Suburban Airport

The purpose of this planning report is to define and characterize the market area in which the proposed South Suburban Airport (SSA) will operate, determine potential users and activity that could occur during the Inaugural Airport Program (IAP) and develop a forecast of aeronautical activity to be used in the development of the Airport Master Plan and Environmental Impact Statement (EIS). The IAP is a proposal by the Illinois Department of Transportation to plan, design, construct and operate a new airport at the SSA site in eastern Will County, Illinois. This site was approved as a feasible location for an airport by the FAA in their Record of Decision on the Tier 1 Environmental Impact Statement for South Suburban Airport, dated July 12, 2002.

The Illinois Department of Transportation (IDOT) developed two aeronautical forecasts for the Chicago region during the planning of SSA. One set of forecasts was developed as part of the *Illinois-Indiana Regional Airport Program Site Selection Study* in 1991, and the other set of forecasts was developed as part of the *Phase 1 Engineering Study* in 1995. These forecasts examined a number of different options for expanding commercial air passenger and cargo service in the region and were based on different assumptions concerning activity levels at Chicago region airports, but were never approved by FAA. This forecast report will take into account the existing (2002) and future roles of existing airports in the Chicago region and identify the market segments that the IAP at SSA could potentially serve.

The Inaugural Airport is being planned to serve at least three (3) separate facets of aeronautical activity including: air passenger, air cargo and general aviation/corporate. The level of activity from each of these types of aeronautical activity is dependent on a number of factors including airline service, facilities provided at the airport, operating costs and supporting infrastructure. Operating costs for SSA will depend on the facilities constructed and the financing obtained to construct the airport. These issues will be discussed in subsequent reports. This paper will explore the potential for each category of aeronautical activity to develop at the airport and the likely market segments they would serve. Due to uncertainty, a range of forecasts for each type of aeronautical activity will be produced. These forecasts, as driven by market forces, will be labeled low, base and high to reflect certain assumptions regarding the introduction of service at SSA, and are discussed under the appropriate headings in the following chapters.

The forecasts of aeronautical activity developed in this report will be used to establish the facility requirements in the Airport Master Plan for SSA. The Master Plan will focus on the IAP, but will also consider long-range forecasts and a potential “ultimate configuration” for SSA. The aircraft operations and passenger enplanement forecasts together with a breakdown of proposed aeronautical activity, design aircraft, and assumptions concerning load factors and average aircraft seating configuration, will provide a measure of the airfield and terminal requirements. These requirements will be described in a separate report and will become part of the Airport Master Plan.

Section 2 - Planning Horizon Years Discussion

The projections of aeronautical activity prepared in this report will be developed using Planning Horizon Years (PHY) that relate to the Date of Beneficial Occupancy (DBO), the opening day of the Inaugural Airport. For planning efforts associated with the Master Plan and EIS, forecasts will need to be developed for the first year of operation (DBO+1) and the fifth year of operation (DBO+5). These forecasts will be used to evaluate the facility requirements and environmental impacts resulting from aircraft operations, surface transportation and construction of the required facilities.

In addition, for purposes of cumulative impact analysis and in accordance with the National Environmental Policy Act (NEPA) of 1969 and FAA guidelines, a development scenario corresponding to the long-range projections (DBO+20) will be formulated. This scenario will be used in the Airport Master Plan to ensure that future development of the South Suburban Airport is not inhibited due to construction of the IAP. Analysis of this development scenario will also fulfill NEPA disclosure requirements in the EIS and can be used by Federal, state and local planning and resource agencies in the formulation of future plans.

As stated in Section 1, a range of forecasts by aeronautical activity type will be developed for each PHY. With the exception of DBO and DBO+5, this report will not attempt to identify when the construction of certain airport facilities would occur. Future expansion of the South Suburban Airport, beyond the IAP, will be discussed in terms of operational levels in the Airport Master Plan.

Chapter 1 - Air Passenger Service Forecast

Section 1 - Overview of Air Passenger Service Forecast Methodology

The purpose of this chapter is to analyze the air passenger market, identify existing conditions/trends and, based on realistic expectations, develop air passenger activity forecasts for the Inaugural Airport Program (IAP) at the South Suburban Airport (SSA) in eastern Will County, Illinois. The IAP is a proposal by the Illinois Department of Transportation (IDOT) to plan, design, construct and operate a new airport at a site in Will County, Illinois. This site was approved as a feasible location for an airport by the FAA in their Record of Decision on the Tier 1 Environmental Impact Statement, dated July 12, 2002.

It should be noted, as a preface to all forecasting studies, that forecasts include a level of uncertainty. Traditionally, aviation forecasting is influenced by national and global economic cycles and technological advancement. For instance, the FAA's Office of Aviation Policy and Plans (APO) recognized the difficulty in generating accurate forecasts at its "2002 FAA Commercial Aviation Forecast Conference" held in Washington, D.C. A special workshop, "Forecasting and Capacity Requirements in an Uncertain Environment", was devoted to the subject. One of the conclusions of the workshops was recognition of the potential inaccuracies of forecasts and the need to compensate through the development of "flexible airport plans, allowing the decision makers to accelerate or defer projects as needed".[1]

The South Suburban Airport presents additional challenges associated with forecasting. As a new supplemental airport to be located in the Chicago area, and in the fifth fastest growing county in the country[2], the SSA passenger forecast must address issues relating to potential demand including demand generated by induced development. Historically, airport activity induces new development around an airport due to demand for hotels, car rentals, and restaurants, as well as attracting businesses to its vicinity that are dependent on air travel or services. While IDOT believes that SSA will eventually induce development in the area surrounding the airport site, the level of induced development anticipated within the first 5 years of airport operation (the focus of these forecasts), is expected to be relatively minimal. Thus, the aviation forecasts developed in this document through DBO+5 do not consider induced demand. However, the long-range projections (beyond DBO+5) do take into account varying levels of induced demand.

The forecasts for passenger service developed in this chapter rely on an examination of the existing and projected socio-economic conditions of the area, available market surveys, and an analysis of the U.S. airline industry to determine the types of airlines and passenger markets that would potentially utilize SSA during its initial years of development.

The forecast methodology is based on surveys of potential passengers, which have been used to identify the potential market area for SSA. In 1995, the Illinois Department of Transportation conducted a home-interview survey to determine the size and characteristics of the aviation market in the Chicago Region, and more specifically, in the areas adjacent to the proposed South Suburban Airport. The findings of this survey were used as a tool to generate a bottom-up forecast reflecting existing travel behavior in the south suburbs of Chicago. The results of the survey were updated based on the changing demographics of the area, as indicated by the 2000 U.S. Census.

[1] FAA, Forecasting and Capacity Requirements in an Uncertain Environment, 2002 FAA Commercial Aviation Forecast Conference, Washington, DC, March 12-13, 2002.
[2] Population Division, U.S. Census Bureau, Table 9 - 100 Fastest Growing U.S. Counties in 2003: April 1, 2000 to July 1, 2003. Release Date: April 9, 2004.

A financial/market analysis of the U.S. airline industry and the Chicago air passenger market was also undertaken by IDOT to identify the type(s) of airline and potential air passenger markets that would most likely occur at SSA during the IAP.

An examination of historical and projected activity at existing Chicago region airports is presented in the next section as background information.

Section 2 – Existing Regional Air Passenger Market

Three airports, O'Hare International Airport, Midway International Airport, and Gary/Chicago International Airport, currently offer, or have recently offered, commercial air passenger service within the Chicago Consolidated Metropolitan Statistical Area (CMSA). General Mitchell International Airport, Milwaukee, Wisconsin and Greater Rockford Airport, Rockford, Illinois, are located adjacent, but outside, the Greater Chicago Region (see Exhibit 1-1). Although both of these facilities provide air passenger service and their primary service areas include portions of the Chicago CMSA, neither airport attracts significant numbers of passengers from the southern half of the Chicago region[3], the proposed location of SSA; thus they are not considered in this section.

O'Hare International Airport (ORD) is primarily served by the mainline carriers, with passenger hub operations by United Airlines and American Airlines accounting for approximately 75 percent of ORD activity.[4] ORD also serves as the primary international airport for the Chicago region. In 2003, Midway International Airport (MDW) offered limited international service, but served as the region's primary airport for domestic low-cost carriers. Historically, passenger service at Gary/Chicago International Airport (GYY) has been offered on an intermittent basis.

A review of forecasts published by Boeing Corporation and FAA, as well as air passenger forecasts for O'Hare International Airport, Midway International Airport, and Gary/Chicago International Airport are presented in the following sections. For ORD and GYY airports, the most recent published air passenger forecasts are reported. For Midway, the FAA Terminal Area Forecasts are presented since forecasts for MDW post-2001 have not been published by the City of Chicago.

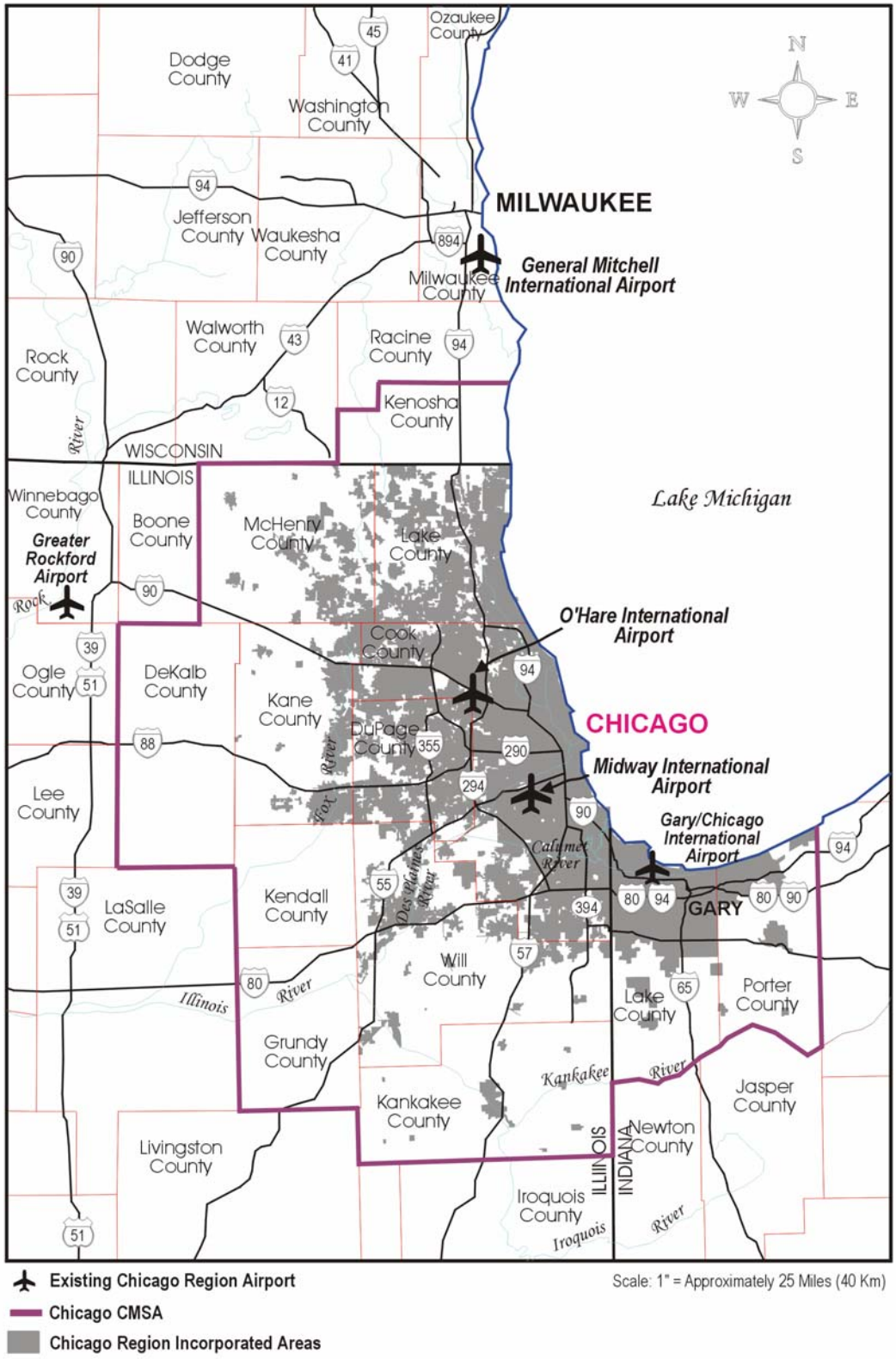
Boeing Forecasts

Boeing Commercial Airplanes publishes an annual assessment of the demand for world air travel. In its *Current Market Outlook 2003,* Boeing discusses the future of air passenger activity over the next twenty years.[5] Boeing's forecasts take into consideration the 2001 through 2003 downturn in the aviation industry due to economic conditions, the implementation of new security procedures as a result of the September 11, 2001 terrorist attacks, the outbreak of the Severe Acute Respiratory Syndrome (SARS) virus, and geopolitical conflicts. The long-term worldwide passenger annual growth rate in revenue passenger kilometers[6] (RPKs) is forecast by Boeing to be 5.1 percent per year.

Due to the relative maturity of the North American aviation market, Boeing predicts an annual growth rate in RPKs of 4.1 percent there, while RPKs between Latin America and North America is forecast to increase by 5.1 percent annually. [7]

[3] KPMG Peat Marwick, Chicago Airport Capacity Study, 1988; The al Chalabi Group, Ltd. in association with Market Facts, Inc., Market Survey of Potential Users: South Suburban Airport, 1995.
[4] City of Chicago, Draft Unconstrained Demand Analysis, O'Hare Modernization Program, February 2003.
[5] Boeing Commercial Airplanes, Current Market Outlook 2003, June 2003.
[6] Revenue Passenger Kilometer is one revenue passenger transported one kilometer in revenue service. USDOT, Bureau of Transportation Statistics, 2004.
[7] Boeing Commercial Airplanes, Current Market Outlook 2003, June 2003.

Exhibit 1-1
Chicago Region



Boeing also predicts that the North American market share of world traffic (measured in RPKs) will decrease from 24 percent to 20 percent between 2003 and 2022.[8]

FAA Aerospace Forecasts

According to the latest FAA projections, *FAA Aerospace Forecasts: Fiscal Years 2004-2015*, total domestic passenger enplanements will increase about 63 percent between Fiscal Years (FY) 2003 and FY 2015, an annual growth rate of 4.2 percent (see Table 1-1).[9] The domestic large carrier activity[10] will increase 4.2 percent in FY 2004, 5.3 percent in FY 2005 and average 3.4 percent after that through FY 2015.

The report states that regional/commuter airlines have experienced significant increases in domestic passenger enplanements in recent years, growing 18.6 percent in FY 2003.[11] FAA projects that domestic passenger enplanements for these airlines will increase 18.7 percent in FY 2004, 11.8 percent in FY 2005, 7.3 percent in FY 2006 and average 4.4 percent after that through FY 2015. Overall, regional/commuter airlines are predicted to carry 23.0 percent of all scheduled domestic commercial air service passengers in FY 2015, an increase of 5.1 percent over FY 2003.[12]

The FAA expects that overall international passenger traffic (large air carrier and regional/commuter) will grow approximately 5.2 percent annually through 2015. FAA anticipates passenger demand to be strongest in Pacific and Latin American markets with annual growth rates of 5.6 and 5.2 percent, respectively. Atlantic (European) passenger traffic is predicted to increase at a 4.9 percent annual rate, while Canadian trans-border traffic will grow 3.3 percent a year, during the same time period.[13]

The FAA also publishes long-range aviation forecasts; its most recent one was issued in June 2003 and includes forecasts for FY 2015, 2020, 2025 and 2030.[14] Table 1-2 compares average annual growth rates for intermediate and long-range forecasts, as prepared by FAA. Between FY 2002 and FY 2030, FAA forecasts an average annual growth rate of 4.2 percent for international traffic. During the same time period, annual growth to Latin American markets is expected to be 4.7 percent; to Pacific markets 4.4 percent; to Atlantic markets 4.1 percent; and to Canadian/trans-border traffic 2.9 percent.[15]

The FAA Long-Range Forecasts predict that overall U.S. commercial aircraft operations will increase from 27.9 million in FY 2002 to 35.2 million in FY 2014, and to 47.5 million in FY 2030.[16] This translates to an average annual growth rate in commercial aircraft operations of 2.0 percent in the intermediate forecast period (2002-2014) and 1.9 percent over the long-range forecast period.

[8] Boeing Commercial Airplanes, Current Market Outlook 2003, June 2003.
[9] FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, March 2004.
[10] Ibid.
[11] Ibid.
[12] Ibid.
[13] Ibid.
[14] FAA, FAA Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020, 2025 and 2030, June 2003.
[15] Ibid.
[16] Ibid.

Table 1-1
U.S. Large Air Carriers and Regionals/Commuters
Total Scheduled U.S. Passenger Traffic

Fiscal Year	Revenue Enplanements (Millions)						
	Domestic			International			Grand Total
	Large Air Carrier	Regional/ Commuter	Total	Large Air Carrier	Regional/ Commuter	Total	
Historic Activity							
1998	524.7	65.7	590.4	52.1	2.1	54.2	644.7
1999	537.8	73.1	610.9	53.3	2.8	54.9	665.8
2000	561.5	79.7	641.2	53.5	3.1	56.4	697.6
2001	546.3	80.4	626.8	48.4	3.1	56.7	683.4
2002	485.9	88.6	574.5	50.5	2.8	51.2	625.8
2003 (est)	482.2	105.1	587.3		3.6	54.1	641.4
Forecast Activity							
2004	502.4	124.8	627.2	55.6	4.0	59.5	686.7
2005	529.0	139.5	668.5	59.2	4.1	63.3	731.8
2006	548.1	149.7	697.8	62.2	4.3	66.4	764.2
2007	565.6	158.5	724.1	65.2	4.5	69.6	793.8
2008	584.3	165.3	749.6	68.3	4.6	72.9	822.5
2009	604.2	172.6	776.8	71.4	4.8	76.2	853.0
2010	624.1	179.9	804.0	74.7	5.0	79.7	883.7
2011	644.1	187.4	831.5	78.1	5.2	83.3	914.8
2012	665.3	195.2	860.5	81.7	5.4	87.1	947.6
2013	687.9	203.2	891.2	85.3	5.7	91.0	982.1
2014	712.7	211.5	924.2	89.1	5.9	95.0	1,019.2
2015	738.4	220.1	958.4	93.0	6.1	99.1	1,057.6

Source: FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, Tables 9, 17 and 27 March 2004, Forms 41 and 298-C, U.S. Department of Transportation.
Revenue Enplanements are defined as the number of passengers boarding an aircraft (USDOT, Bureau of Transportation Statistics).

Table 1-2
Comparison of Intermediate and Long-Range
FAA Forecasts, Passenger Enplanements

Category	Average Annual Percent Change		
	2004-2005	2005-2015	2015-2030
U.S. Domestic			
Large Air Carriers	5.3	3.4	3.2
Regionals/Commuters	11.8	4.7	3.5
*International**	6.4	4.6	3.9

Source: FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015; FAA, FAA Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020,
2025 and 2030, June 2003.
Total international passengers to and from the U.S. – U.S. & Foreign Flag Carriers.

Chicago Region Forecasts

The Chicago CMSA is a 7,038 square-mile area composed of 13 counties from three States (see Exhibit 1-1). The Chicago CMSA population, according to the 2000 U.S. Census, was 9,157,540. The U.S. Bureau of the Census estimated the 2003 Chicago CMSA population at 9,394,655[17] and the 2000 employment in the Chicago CMSA at 5,550,960. Woods & Poole have projected the Chicago CMSA population and employment to increase to 11,067,780 and 7,274,770, respectively, by 2025. [18]

[17] U.S. Census Bureau, Annual Estimates of the Population for Counties: April 1, 2000 to July 1, 2003.
[18] Woods & Poole, Economics, CEDDS 2003, The Complete Economic and Demographic Data Source.

In 2003, there were two large air carrier hub airports[19] within the Chicago CMSA. They are:

- O'Hare International Airport (ORD); and
- Midway International Airport (MDW).

In addition to these airports, Gary/Chicago International Airport (GYY), located in Gary, Indiana is presently a general aviation airport that currently provides limited passenger service. Southeast Airlines initiated scheduled charter service from GYY to Florida in February 2004.

There are also two airports that serve adjacent Metropolitan Statistical Areas (MSA): General Mitchell International Airport (MKE), a medium hub, in Milwaukee, Wisconsin and Greater Rockford Airport (RFD), a non-hub airport, located in Rockford, Illinois. Scheduled passenger service has been provided on an intermittent basis at RFD. MKE continues to present robust service and partially serves the northern edges of the Chicago CMSA. Since these airports are not located within the Chicago CMSA, nor do they provide air passenger service to the southern portion of the Chicago CMSA, they are not discussed below.[20] Exhibit 1-1 shows the Chicago CMSA, its urban areas, adjacent areas and the commercial airports serving or planning to serve the region in 2003.

O'Hare International Airport

Chicago and its O'Hare International Airport (ORD) have long held claim to the title of the World's Busiest Airport. Chicago – centrally located in the nation and well positioned for routes abroad – is a logical transportation hub. It originated as a major link between the Great Lakes and the Mississippi River network and has evolved, successively, into a rail, highway, water and aviation hub. After opening in 1955, O'Hare International Airport supplanted Midway Airport as the world's busiest in 1962, when the airlines operating out of Midway transferred all of their operations to O'Hare.[21] It retained that title consistently until 1998, when it lost the title to Atlanta Hartsfield International Airport. However, in 2001 and continuing through at least 2003, O'Hare regained the title of world's busiest airport in terms of total annual number of aircraft movements; Atlanta was the world's busiest in terms of total annual passengers during those same years.[22]

O'Hare is primarily served by the mainline domestic air carriers, with United Airlines and American Airlines accounting for 75 percent of airport enplanements in 2002.[23] O'Hare is the primary airport in the Chicago region, providing domestic and international service to many destinations. About 12 U.S. flag air carriers and 27 foreign flag air carriers provided scheduled passenger service, while eight charter airlines provided nonscheduled passenger service at ORD in 2004.[24] The City of Chicago is in the planning stages of the O'Hare Modernization Program, which will significantly reduce delays during adverse weather conditions, provide additional airside and landside capacity and ensure O'Hare's continued status as one of the busiest airports in the world.[25] Table 1-3 presents the historical air carrier enplanement and operation data for ORD from 1990 through 2003.

The most recent O'Hare aviation forecasts prepared for the O'Hare Modernization Program (OMP) predict that the airport's projected growth rates will be slightly lower

[19] FAA defines large hub airports as those carrying at least 1% of the total annual U.S. domestic enplaned passenger activity.
[20] KPMG Peat Marwick, Chicago Airport Capacity Study, 1988; The al Chalabi Group, Ltd. in association with Market Facts, Inc., Market Survey of Potential Users: South Suburban Airport, 1995.
[21] O'Hare International Airport, http://www.ohare.com/ohare/about/timeline/ohare_timeline.shtm, 2004.
[22] Airports Council International, Airport Traffic Statistics, http://www.aci-na.org/asp/traffic.asp?page=90, 2004.
[23] City of Chicago, Draft Unconstrained Demand Analysis, O'Hare Modernization Program, February 2003.
[24] O'Hare International Airport, http://www.ohare.com/ohare/airlines/airlines.shtm, 2004.
[25] O'Hare Modernization Program, http://modernization.ohare.com/program.htm, 2004.

for domestic activity than the FAA National and Boeing forecast rates for the same time period (see Table 1-4). The OMP forecasts are based on the FAA's 2002 Terminal Area Forecasts (TAF) and historical growth rates at O'Hare, which are shown in Table 1-3. Due to O'Hare's airfield configuration, its airfield capacity, especially during Instrument Flight Rule (IFR) conditions, has some limitations in its ability to accommodate existing demand.[26] Among other benefits, implementation of the OMP will allow O'Hare to significantly increase the number of operations during IFR conditions, since the new runway configuration will allow the use of at least three independent parallel runways for simultaneous arrivals.[27]

In the first couple of years of the ORD forecast, the growth rates for domestic enplanements (shown in Table 1-4) are slightly lower than those expected for the U.S, but after 2007 their projected rates are significantly less than FAA projections for the U.S, as shown in Table 1-2. The growth rates for international traffic (which excludes trans-border traffic with Canada) are similar or slightly higher than the national ones. Regardless of the lower forecasted growth rates at O'Hare, air passenger enplanements are still expected to significantly increase over the twenty-year period. Domestic annual enplanements are forecast to increase 45 percent, from 28.5 million to 41.6 million in 2020, which represents an average annual increase of 2.4 percent. Growth in international enplanements is projected to experience an even greater increase, a gain of 126 percent, from 4.8 million to 10.9 million annual enplanements between 2004 and 2020, which represents an annual growth rate of 5.2 percent.

Midway International Airport

Midway International Airport (MDW), also owned and operated by the City of Chicago, has experienced significant passenger growth in the last 10-15 years. The City of Chicago has embarked on a major improvement project, known as the Midway Airport Terminal Development Program, which has expanded and essentially replaced the ground transportation access system and passenger terminal, including a new Federal Inspection Service (FIS) facility. The completion of this major project is expected to occur in 2004.[28]

In the last few years, passenger activity at Midway has steadily increased, even during 2002 when most U.S. airports experienced a decline in activity due to economic conditions and the terrorist attacks of September 11 (see Table 1-5). This growth has been a result of Midway's role as the main low-cost carrier (LCC) airport in the Chicago region. In 2003, Midway was served by 10 passenger airlines that primarily provide scheduled domestic service, but also provide service to a few international destinations.[29]

The two main airline tenants are ATA and Southwest Airlines. In 2002, ATA was the largest carrier at MDW, handling 44 percent of the traffic and accounting for 10 percent of the air passenger traffic in the Chicago region.[30] In 2002, MDW handled over 1 percent of total U.S. enplanements, classifying it as a large hub airport, as defined by FAA.[31]

[26] City of Chicago, Draft Unconstrained Demand Analysis, O'Hare Modernization Program, February 2003.
[27] Ibid.
[28] Midway International Airport, http://www.ohare.com/midway/terminal_project/terminal_project_home.shtm, 2004.
[29] Midway International Airport, http://www.ohare.com/midway/airlines/airlines_home.shtm, 2004; http://www.ohare.com/midway/about/midway_destinations.shtm, 2004.
[30] Manor, R. "ATA to Increase Midway Flights", Chicago Tribune, July 29, 2003.
[31] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, March 2004.

Table 1-3
O'Hare International Airport
Historic Air Carrier Enplanements and Operations

Year	Enplanements[1]			Air Carrier Operations
	Domestic	International	Total	Domestic and Int'l
1990	27,101,329	2,317,673	29,419,002	766,543
1991	27,098,675	2,277,674	29,376,349	761,603
1992	29,121,304	2,533,770	31,655,074	787,671
1993	29,101,964	2,882,034	31,983,998	798,422
1994	29,715,188	3,003,537	32,718,725	789,589
1995	29,563,080	3,298,380	32,861,460	809,834
1996	30,538,684	3,529,201	34,067,885	814,617
1997	30,887,134	3,886,980	34,774,114	813,926
1998	31,460,468	4,298,576	35,759,044	826,285
1999	31,190,082	4,757,001	35,947,083	831,800
2000	30,651,529	5,048,996	35,700,525	848,502
2001	28,693,866	4,616,337	33,310,203	853,664
2002	26,693,777	4,358,579	31,052,356	871,717
2003	28,810,466	4,534,271	33,344,447	876,465
Compounded Annual Growth Rates				
1990-2000	1.2%	8.1%	2.0%	1.0%
2000-2001	-6.4%	-8.6%	-8.9%	0.6%
2001-2002	-7.0%	-5.6%	-6.8%	2.1%
2002-2003	7.9%	4.0%	7.4%	0.5%

Source: City of Chicago, Draft Unconstrained Demand Analysis, O'Hare Modernization Program, 2003. City of Chicago, Airport Activity Statistics, March 2004.
[1]Excludes all-cargo, military, helicopter and miscellaneous passengers included in the City of Chicago's Airport Activity Statistics.

Table 1-4
O'Hare International Airport
Forecast Air Carrier Enplanements and Operations

Year	Enplanements			Air Carrier Operations
	Domestic[1]	International[2]	Total	Domestic and Int'l
2004	28,515,317	4,840,922	33,356,239	931,066
2005	29,271,987	5,165,261	34,437,248	949,116
2006	29,997,619	5,485,506	35,483,125	964,667
2007	30,741,068	5,798,179	36,539,247	979,162
2008	31,493,848	6,122,876	37,616,724	993,205
2009	32,248,634	6,459,631	38,708,265	1,007,790
2010	33,030,767	6,808,449	39,839,216	1,022,244
2015	37,126,253	8,722,614	45,848,867	1,096,405
2020	41,463,039	10,942,874	52,405,913	1,166,261
Average Annual Growth Rates				
2004-2010	2.48%	5.85%	3.00%	1.57%
2010-2015	2.37%	5.08%	2.85%	1.41%
2015-2020	2.23%	4.64%	2.71%	1.24%

Source: City of Chicago, Draft Unconstrained Demand Analysis, O'Hare Modernization Program, 2003.
2002 FAA Terminal Area Forecasts; U.S. DOT Origin-Destination Passenger Survey; Ricondo & Associates, Inc., February 2003.
[1] Includes Canadian traffic.
[2] Excludes Canadian traffic.

Table 1-5
Midway International Airport
Air Carrier Enplanements and Operations
Historic and Forecast Activity

Year	Enplanements			Air Carrier/Commuter Operations
	Air Carrier	Commuter	Total	Domestic
Historic Activity				
1990	3,570,480	282,927	3,853,407	234,300
1991	3,269,162	355,187	3,624,349	222,085
1992	1,908,649	71,397	1,980,046	109,998
1993	2,606,418	81,936	2,688,354	118,924
1994	3,872,429	174,151	4,046,580	179,883
1995	4,150,990	127,745	4,278,735	193,048
1996	4,405,696	74,984	4,480,680	174,488
1997	4,349,126	54,511	4,403,637	171,494
1998	4,929,859	24,937	4,954,796	182,845
1999	6,792,514	162	6,792,676	166398
2000	7,836,290	58	7,836,348	190,684
2001	7,814,402	40	7,814,442	187,300
2002	8,364,726	114,889	8,479,615	211,468
2003	9,208,100	114,087	9,322,187	228,736
Forecast Activity				
2004	8,301,070	787,345	9,088,415	273,090
2005	8,914,182	803,879	9,718,061	280,380
2006	9,448,724	816,741	10,265,465	286,513
2007	9,921,224	831,442	10,752,666	291,678
2008	10,378,009	843,082	11,221,091	296,686
2009	10,855,827	851,512	11,707,339	301,853
2010	11,301,820	861,730	12,163,550	306,296
2015	13,637,245	888,756	14,526,001	327,127
2020	16,266,245	870,239	17,136,484	352,441
Average Annual Growth Rates				
2004-2010	5.28%	1.52%	5.00%	1.93%
2010-2015	3.83%	0.62%	3.61%	1.32%
2015-2020	3.59%	-0.42%	3.36%	1.50%

Source: FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, March 2004.
Chicago Department of Aviation, Airport Activity Statistics

Since no passenger forecast has been published for MDW that accounts for the effect of the September 11 terrorist attacks on activity at MDW, this report uses the FAA's 2003 TAF, the most recent forecast available at the time of this writing. Table 1-5 depicts historical and assumed future passenger air carrier traffic at Midway International Airport. The FAA's TAF are formulated based on historical activity at each facility, and, for large and medium hub airports, is also based on population and income.[32] Thus, the TAF for Midway assumes relatively unconstrained growth of air passenger operations.

Gary/Chicago International Airport

According to the most recent Master Plan prepared for the Gary/Chicago International Airport (GYY) in 2000, annual enplanements have ranged from 1,294 in FY 1991 to 3,446 in FY 1997.[33] Passenger service has been intermittent at GYY, with very limited service throughout the years. The Gary/Chicago International Airport is located in Gary, Indiana, approximately 20 miles southeast of the Chicago Central Business District. The forecast numbers presented in this report are the enplanement forecasts accepted by FAA for planning and environmental purposes,

[32] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, March 2004.
[33] HNTB, Gary/Chicago Airport Master Plan Update, Aviation Activity Forecasts, Final Draft, February 2000.

which are discussed in the 2000 GYY forecast report.[34] Since the projections were prepared prior to the September 11, 2001 terrorist attacks, some corrections may need to be made to the forecasts in the future. Table 1-6 presents the enplanement projections.

Table 1-6
Gary/Chicago International Airport
Air Carrier Enplanements & Operations
Historic and Forecast Activity

Year	Enplanements	Operations
Historic Activity		
1997	2,011	140
2000	17,537	1,616
Forecast Activity		
2005	57,680	1,550
2010	68,175	1,832
2020	95,942	2,558
Average Annual Growth Rates		
2000-2005	26.89%	-0.83%
2005-2010	3.40%	3.40%
2010-2020	3.48%	3.39%

Source: HNTB, Gary/Chicago Airport Master Plan Update, Aviation Activity Forecasts, Final Draft, February 2000.
Note: The activity for 2000 did not materialize.

Existing Regional Air Passenger Market Summary

The Chicago region, which has a large existing air passenger market, is projected to have continued air passenger growth through 2020, as shown in Tables 1-4 through 1-6. Forecasts for regional airports in 2003 indicated that the region's domestic air passenger activity is expanding at a rate less than the national rate. The following sections discuss the potential air passenger market for the IAP and the formulation of market demand forecasts.

Section 3 – Potential South Suburban Airport Passenger Market

Throughout its history, the Chicago area has served as a major transportation hub: first, as a waterway portage between the Great Lakes/St. Lawrence River and the Mississippi River systems; second, as a railroad center; and, eventually, as an interstate highway link and a major aviation hub of North America.[35] Through the 1950's, the growth of the Chicago region was concentrated around the Chicago Central Business District, the focal point of the railroad network. During this period, the south side of Chicago and the southern suburbs had a stronger employment base than Chicago's north side or the north and northwest suburbs. This changed when O'Hare opened in 1955 with all scheduled operations at Midway transferring to O'Hare by 1962, making it the world's busiest airport.[36] For many years thereafter, limited service was provided at Midway. Following airline deregulation and the return of regular service, the airport has grown to levels exceeding those of the 1950's.[37]

Meanwhile, O'Hare became a magnet for attracting businesses and jobs and, eventually, a major center of urban growth. The Chicago Central Business District remained vibrant; however, its growth did not match the development in DuPage, northwestern Cook and southern Lake Counties. Due to a number of factors, the south side of Chicago, as well as the southern suburbs, experienced lower

[34] HNTB, Gary/Chicago Airport Master Plan Update, Aviation Activity Forecasts, Final Draft, February 2000.
[35] Johnson, Elmer. Chicago Metropolis 2020, Preparing Metropolitan Chicago for the 21st Century, 1999.
[36] O'Hare International Airport, http://www.ohare.com/ohare/about/timeline/ohare_timeline.shtm, 2004.
[37] Midway International Airport, http://www.ohare.com/midway/about/timeline/midway_timeline.shtm, 2004.

employment growth rates than the overall greater Chicago region, although they still continued to experience growth in population.[38]

As land around O'Hare became fully developed, the areas surrounding the airport became either urbanized or suburbanized.[39] Eventually, significant residential development reached Will, Kendall and south Cook Counties, in Illinois, and Lake and Porter Counties, in Indiana.[40,41]

In 2003, Will County was the fifth fastest growing county in terms of numerical population growth in the U.S.[42] Only Riverside (California-L.A.), Clark (Nevada-Las Vegas), Collin (Texas-Dallas/Fort Worth) and Gwinnett (Atlanta) Counties expanded their population base more between 2000 and 2003. Recent forecasts by the Northeastern Illinois Planning Commission (NIPC), which assume that O'Hare will be expanded in accordance with OMP and that SSA will be in operation by 2030, predict that Will County will become the second-most populous county in Illinois, surpassing DuPage County by 2030.[43] The South Suburban Airport is being proposed for development at a site in eastern Will County, Illinois (see Exhibit 1-2).

The potential passenger market for SSA is composed of segments of the Chicago Consolidated Metropolitan Statistical Area (CMSA) to the south and southwest of the City of Chicago, as well as northwestern Indiana. In order to define and delineate a distinct passenger market for SSA, two conservative conditions were used:

- The SSA primary passenger market must be located beyond a 45-minute average daily travel time from Midway International Airport (MDW); and
- The SSA primary passenger market must always be located closer to SSA than to either Midway International Airport (MDW) or O'Hare International Airport (ORD).

Exhibit 1-3 shows the area encompassed by a 45-minute average daily travel time[44] from the SSA site. Areas that overlap with Midway's primary passenger market are not included within the SSA primary passenger market. These areas are shown within the heavy blue line on Exhibit 1-3.

According to the 2000 U.S. Census, there were just over 490,000 households with a population of 1.3 million people within the SSA primary passenger market. Average household income was just over $55,000 and total employment within the SSA primary passenger market was 624,000. The Northeastern Illinois Planning Commission projects that households will grow to 762,000, population to 2.1 million and total employment to 1.0 million within the SSA primary passenger market by 2030.[45] A comparison of the SSA primary passenger market with the primary passenger markets for O'Hare and Midway is provided later in this section.

[38] Northeastern Illinois Planning Commission, http://www.nipc.cog.il.us/aboutreg.htm#snapshots, 2004.
[39] Northeastern Illinois Planning Commission, Land Use (1995) Surrounding O'Hare Airport, 2002.
[40] Northeastern Illinois Planning Commission, http://www.nipc.cog.il.us/aboutreg.htm#snapshots, 2004.
[41] Northwestern Indiana Regional Planning Commission, http://www.nirpc.org/Census-DemoIntro.html, 2004.
[42] Population Division, U.S. Census Bureau, Table 9 – Population Estimates for the 100 Fastest Growing U.S. Counties in 2003: April 1, 2000 to July 1, 2003, April 9, 2004.
[43] Northeastern Illinois Planning Commission, 2030 Forecast Numbers for Northeastern Illinois, September 30, 2003.
[44] Chicago Area Transportation Study, 1999 Travel Times.
[45] Ibid.

Exhibit 1-2
South Suburban Airport Location

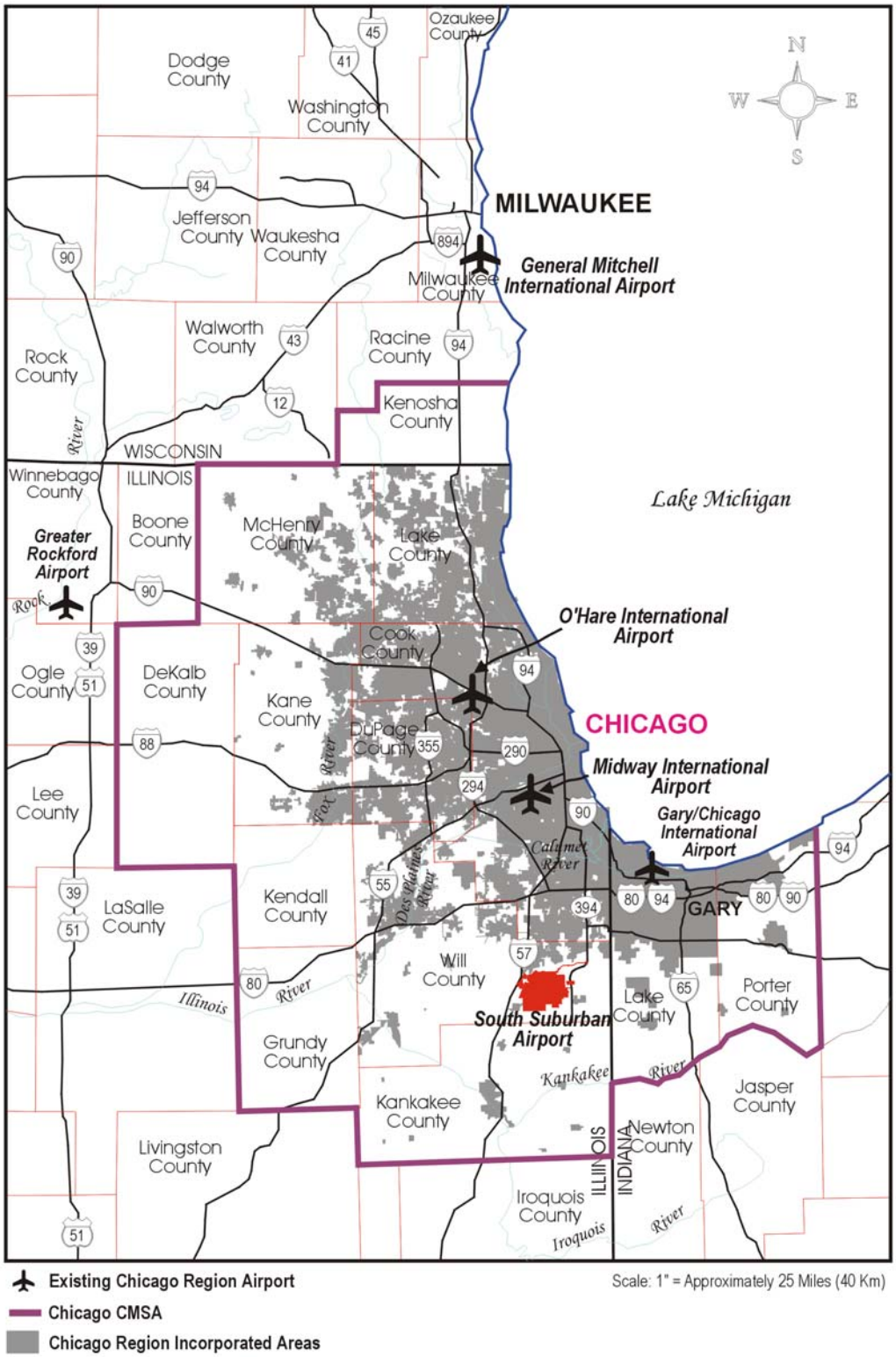
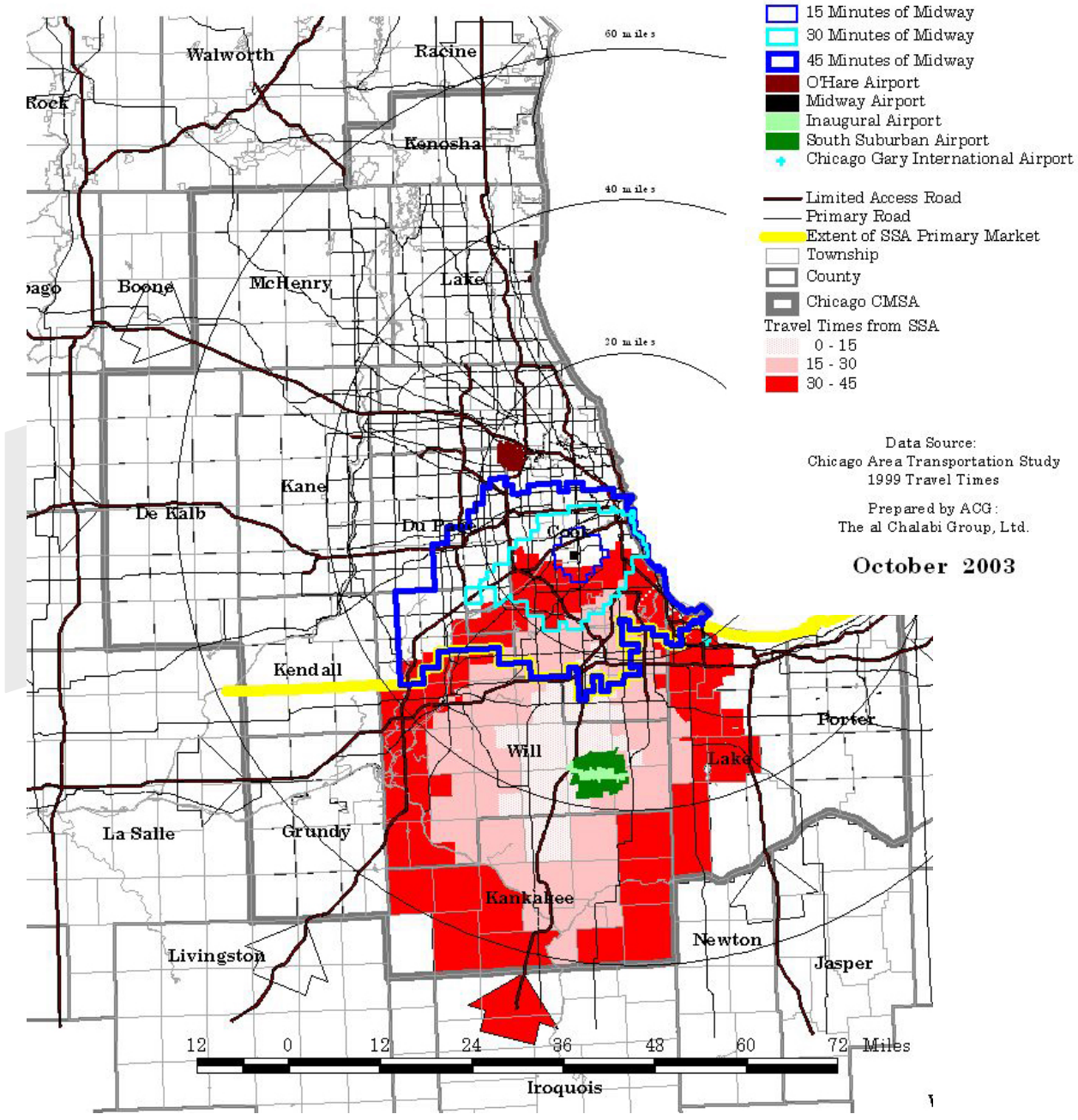


Exhibit 1-3
South Suburban Airport Primary Passenger Market



Existing Demand for Air Travel Within Potential SSA Passenger Market

As part of the Illinois-Indiana Regional Airport Program site selection study conducted between 1989 and 1992, a methodology was formulated to determine residents' air travel patterns in the Chicago region, particularly for the southern portion of the metropolitan area. This methodology consisted of the preparation of airport and home surveys. The home survey included a long distance travel portion and was used to corroborate the results of airport surveys taken at O'Hare, Midway and General Mitchell Airports. The surveys provided an overview of travel patterns of residents of the Chicago region relating trip generation with various regions of the greater metropolitan area along with their socio-economic characteristics.[46]

In 1995, the Illinois Department of Transportation conducted more comprehensive home interview surveys to estimate the existing demand for air services that might be accommodated at the proposed South Suburban Airport. Initially, more than 135,000 households across the U.S. were contacted to determine if they met the profiles for follow-up questionnaires. Four sets of more-detailed surveys followed:

- A national survey mailed to 100,000 representative households across the country with 6,025 responding households containing relevant information on travel to/from the Chicago region.
- An Illinois-Indiana survey mailed to 9,569 households outside the 9-County Chicago area with 7,317 responding households.
- A more detailed survey containing two components first mailed to 18,000 households, then to 8,587 households, with 5,996 responding households in the 9-County Chicago area (Cook, DuPage, Kane, Kankakee, Lake (Illinois), McHenry, Will, Lake (Indiana) and Porter).
- A month-long, long-distance travel log maintained and completed successfully by 5,013 households in the above 9-County area.

The national survey provided information on both the frequency of travel and the socio-economic characteristics of the out-of-town visitor, as well as the resident user of the airports. The survey also provided information on the distribution of resident users and visitor enplanements by state of residence.[47] The long-distance travel log survey had several objectives, listed below:

- Determine the detailed and actual long-distance travel behavior for all members of the sampled households, and their overnight guests, during a specific one-month period (May 1995).
- Determine if there are sub-regional variations in long-distance travel behavior, and if such variations exist, determine the magnitude and reasons for them.
- Determine the existence and magnitude, if any, of demand for air travel in the southern part of the study region.
- Provide an elaboration on and corroboration of the preliminary results of the national survey as to the size and dynamics of the market for SSA.

[46] The al Chalabi Group, Ltd., Working Paper No. 10, Allocation of Enplanement Forecasts to Alternative Airports, Illinois-Indiana Regional Airport Program, 1991.
[47] The al Chalabi Group, Ltd., Market Survey of Potential Users: South Suburban Airport, 1995.

- Provide a comparison with the benchmark 1990 Long-Distance Travel Log.

Table 1-7 summarizes the sample size and results of the four surveys. The methodology and results of the above surveys are presented in the report, Market Survey of Potential Users: South Suburban Airport (The al Chalabi Group, Ltd., 1995). The surveys questioned respondents on travel behavior and measured the number of air trips (trips taken via air) by a household over a specific period of time.

The surveys' statistical accuracy was limited to relatively large sub-regions of the greater Chicago region. The nine-county Chicago region was divided into 14 sub-regions. Cook County was subdivided into six sub-regions (three within the City of Chicago and three for suburban Cook). Each of the other eight counties (DuPage, Kane, Kankakee, Lake (IL), McHenry, Will, Lake (IN), and Porter (IN)) constituted a separate sub-region.

The results of the long-distance log survey indicated that total long-distance travel rates are a function of income. In other words, wealthier households have higher travel rates. Long-distance travel was defined in the surveys as any trip longer than 150 miles from downtown Chicago. Long-distance travel (all modes) per $100,000 aggregate household income (product of households and income) was almost constant throughout the region. The mode (air vs. auto) of long-distance travel varies inversely with distance to existing airports. In other words, people who live farther away from an airport tend to utilize automobiles for long-distance travel more frequently than those people who live closer to that airport.

Using Northeastern Illinois Planning Commission (NIPC) and the State of Illinois planning data prepared in 1995, the model allocated long-distance travel done by household members and their visitors for each sub-region. The long-distance travel rates, as well as the modal split for each sub-region, were applied to all planning zones. Travel generated by hotel guests and day visitors was derived from the national survey and added to the above results to estimate total air travel generated by each planning zone.[48]

Estimating the travel characteristics of the area defined as the SSA primary passenger market required subdividing the survey sub-regions into smaller units. The strong and stable relationship between long-distance travel (total and by mode) and socio-economic and spatial characteristics formed the basis for sub-allocating the survey results to planning zones within each of the 14 sub-regions. The survey results for each sub-region formed the necessary control totals.[49]

The division of the sub-regions resulted in 411 planning zones within the 13-county Chicago CMSA. The sum total of all enplanements generated by the 411 planning zones equaled the origin-destination (O/D) enplanements boarding at ORD and MDW in 1995.[50] An origin enplanement is defined as one passenger boarding an aircraft beginning their air trip at that airport.

[48] The al Chalabi Group, Ltd., Market Survey of Potential Users: South Suburban Airport, 1995.
[49] Ibid.
[50] Bureau of Transportation Statistics, U.S. Department of Transportation, Airline Origin and Destination Survey.

Table 1-7
Overview of the Four Aviation Market Surveys

Survey	Total Mailed	Total Returned	Period Surveyed	Households w/ Air Trips Using Chicago Area Airports	Total Air Trips Using Chicago Area Airports	Air Trips Selected for Detailed Analysis		
						Origin-Destination	Connecting	Total
National (U.S.) Survey - Total all U.S. - Illinois/Indiana - 9-County Region	100,000	78,021	October 1, 1994 Thru March 31, 1995	6,025 1,203 901	16,826	3,336[3] 1,037[3] 873[3]	2,689[4] 166[4] 28[4]	6,025[3] 1,203[3] 901[3]
Illinois-Indiana Survey - Illinois/Indiana (outside Chicago area)	9,569	7,317	December 1, 1994 Thru May 31, 1995	1,678	4,489	3,133	1,356[3]	4,489
Advance Regional (9-County Survey) - Utility Base Sample - Consumer Mail Panel	18,000 8,587	1,702 4,294	October 1, 1994 Thru March 31, 1995	1,146 2,035	6,119 7,273	1,146[3] 2,035[3]		1,146[3] 2,035[3]
Travel Log (9-County) Survey - Utility Base Sample - Consumer Mail Panel	18,000 8,587	947 4,066	May 1995	504 1,388	719 1,554	719 1,554		719 1,554
Total All Surveys (Not sum of above) - U.S. - Illinois/Indiana - 9-County Region	136,156[1]	96,347		10,884[2] 6,062[2] 4,082[2]	34,707[2]	9,560 7,351 4,054	4,045 1,356	13,695 8,707 4,054

Source: The al Chalabi Group, Ltd., in association with Market Facts, Inc., Market Survey of Potential Users: South Suburban Airport, 1995.
[1]Travel logs and advance surveys mailed to same households; therefore, totals do not include travel logs.
[2]Totals do not include travel logs.
[3]Origin-destination trip.

Estimating 2000 Demand for Air Travel

Significant growth in population, households and income occurred in the SSA primary passenger market between 1995 and 2000, as depicted in Table 1-8. Accordingly, the appropriate long-distance travel rates generated in 1995 for each planning zone were applied to the socio-economic and land use characteristics of 2000 to generate a new set of O/D enplanements. Then, the sum of all enplaned passengers, by planning zone, was compared to the O/D enplanements for ORD and MDW that were independently estimated by the U.S. Department of Transportation (USDOT).[51] A comparison of the two sets of data established that the estimates were within one-half of one percent of each other. Therefore, it was concluded that the enplanement generation rates were stable and produced reasonable results. The long-distance trip generation and modal split were calibrated using 1995 data and validated using independent 2000 data[52] to reflect 2004 conditions.

Table 1-8 shows the number of households, population, and average household income (in 1989 dollars), as well as trips by mode and land use (residence, hotel, employment centers for day visitors). In addition to 1995 and 2000 comprehensive data, the table depicts summary socio-economic data for 1990 and the latest available socio-economic forecast for 2030. These socio-economic summaries provide a measure of past and future growth.

Table 1-8
Socio-Economic and Travel Data
SSA Primary Passenger Market

Data Category	1995	2000
Households	464,466	492,374
Total Population	1,291,261	1,348,898
Average Household Income (1989 dollars)	49,425	55,174
Aggregate Household Income (1989 dollars)	22,956,308,139	27,166,201,993
Total Employment	577,883	624,301
Hotel Rooms	6,287	7,947
Household Generated Long-Distance Trips – All	4,027,763	4,748,142
Household Generated Long-Distance Trips – Air	1,084,857	1,282,808
Household Generated Long-Distance Trips - Auto	2,748,129	3,235,733
Hotel Generated Air Trips	252,333	319,117
Other Air-Trips - Day Visitors	114,772	123,997
Total Generated Air-Trips	**1,451,958**	**1,725,915**
Total Air-Trips Per Household	3.13	3.51
Total Air-Trips Per $100,000 Aggregate Income	6.32	6.35
Total Air-Trips Per Job	2.51	2.76
Air Modal Split - Household Generated Long-Distance Trips	27%	27%

Data Category	1990	2030
Households	436,813	762,123
Total Population	1,236,995	2,119,443
Average Household Income (1989 dollars)	47,400	95,455
Aggregate Household Income (1989 dollars)	20,704,829,713	72,748,702,420
Total Employment	545,205	1,010,614
Hotel Rooms	4,621	Unknown

Source: The al Chalabi Group, Ltd., in association with Market Facts, Inc., Market Survey of Potential Users: South Suburban Airport, 1995.
The al Chalabi Group, Ltd.; NIPC, 2003.

The air trips in Table 1-8 are those generated from within the Chicago CMSA and are also located within the SSA primary passenger market. According to this table the SSA primary passenger market generated more than 1.7 million air trips in 2000.

[51] Bureau of Transportation Statistics, U.S. Department of Transportation, Airline Origin and Destination Survey.
[52] Northeastern Illinois Planning Commission, 2000 baseline data for the 2030 Regional Transportation Plan; U.S. Census, 2000.

Table 1-9 has been prepared for comparison purposes. Table 1-9 shows the same data for areas within 45 minutes of ORD, MDW and SSA. It should be noted that these areas overlap and collectively do not cover the entire Chicago CMSA or enplanements generated from outside of the Chicago CMSA.

Table 1-9 offers a good comparison between the various markets. For example, the total air trips per household for the SSA primary passenger market are 3.76 compared to 6.31 for ORD and 6.23 for MDW. The air modal split (number of long distance trips done using air transportation) for the SSA primary passenger market is 33 percent compared to 40 and 42 for ORD and MDW respectively. Another area of comparison is the growth in households, population and income forecasted by NIPC (2000-2030) for each market. NIPC has projected that the primary service area (i.e., Will County) will experience faster growth than the rest of the region.[53] As stated previously, in 2003, Will County was the fifth fastest growing county in terms of numerical population growth in the U.S.[54] This growth in population and income would most likely result in an increased demand for air travel within the primary market area.

Exhibit 1-4 shows the distribution of 2000 air trips generated by planning zone within the SSA primary passenger market. This exhibit shows that air trips are concentrated in the planning zones with good access to ORD and MDW. The various arrows shown on Exhibit 1-4 represent air trips generated outside of the study area. The SSA primary passenger market generates only 11.9 percent of the regional total air trips. However, even this small ratio still constitutes a major demand supported by a population of 1.35 million; this population ranks the area as the 37th largest U.S. Metropolitan Statistical Area (MSA), slightly larger than the Charlotte-Gastonia-Concord, NC-SC MSA.[55]

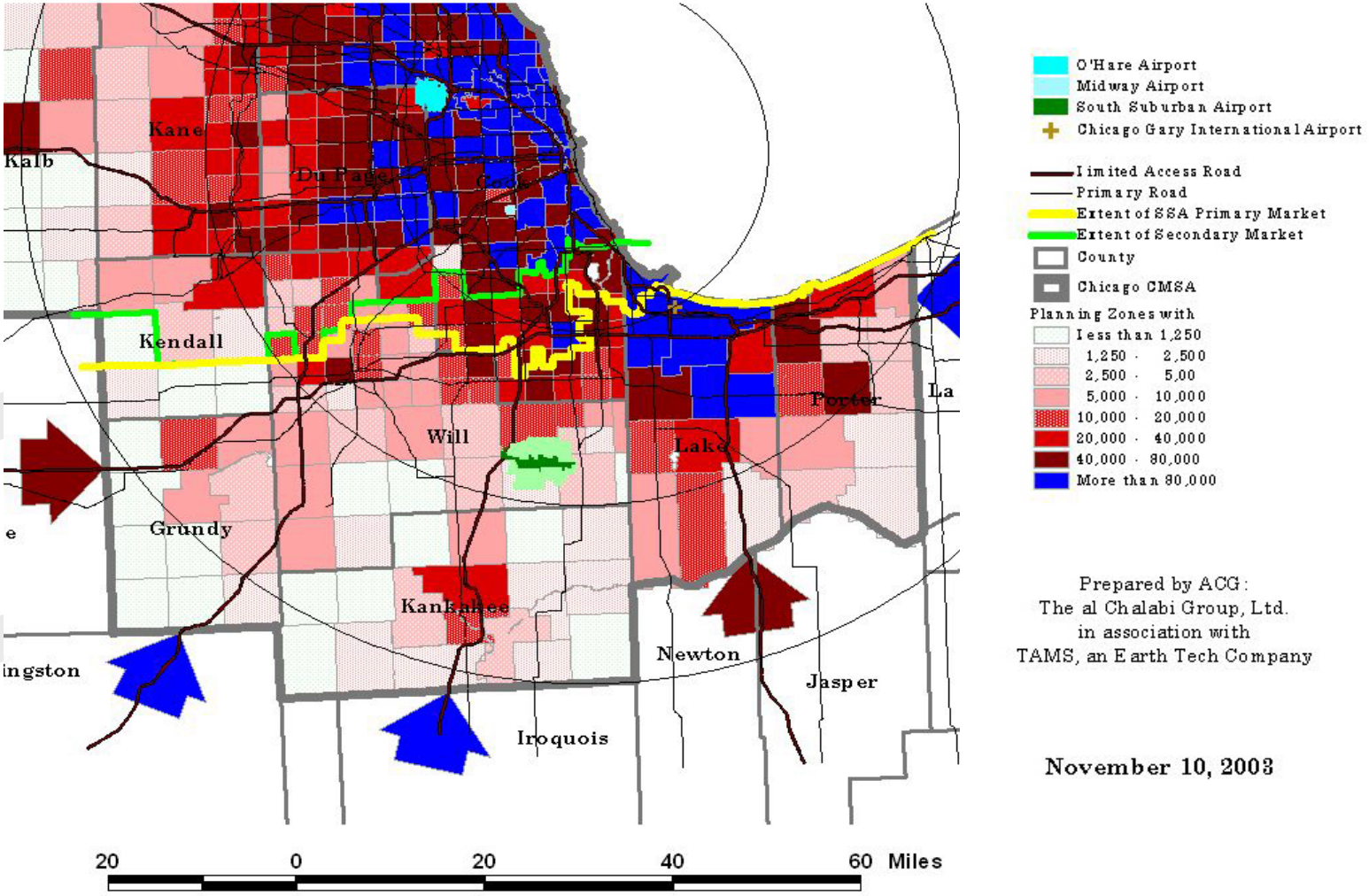
[53] Northeastern Illinois Planning Commission, 2030 Forecast Numbers for Northeastern Illinois, September 30, 2003.
[54] Population Division, U.S. Census Bureau, Table 9 – Population Estimates for the 100 Fastest Growing U.S. Counties in 2003: April 1, 2000 to July 1, 2003. Release Date: April 9, 2004.
[55] U.S. Census Bureau, Census 2000 and 1990 Census. Census 2000 PHC-T-29, Ranking Tables for Population of Metropolitan Statistical Areas, Micropolitan Statistical Areas, Combined Statistical Areas, New England City and Town Areas, and Combined New England City and Town Areas: 1990 and 2000. Table 3a. Population in the Metropolitan and Micropolitan Statistical Areas Ranked by 2000 Population for the United States and Puerto Rico: 1990 and 2000. Release Date: December 30, 2003.

Table 1-9
Socio-Economic and Travel Data - Chicago CMSA
by Areas within 45 Minutes of O'Hare, Midway & South Suburban Airports
(Does Not Include Data from Outside Chicago CMSA)

Data Category	Within 45 Minutes of ORD		Within 45 Minutes of MDW		Within 45 Minutes of SSA	
	1995	2000	1995	2000	1995	2000
Households	1,446,898	1,495,963	1,178,596	1,210,372	835,712	863,564
Total Population	4,058,471	4,213,993	3,370,363	3,447,022	2,375,624	2,421,841
Average Household Income (1989 dollars)	70,077	80,587	56,052	65,021	51,677	58,642
Aggregate Household Income (1989 dollars)	101,393,830,851	120,555,463,375	66,062,289,026	78,699,751,567	43,187,251,527	50,641,446,884
Total Employment	2,522,808	2,844,138	2,099,524	2,194,766	845,732	887,891
Hotel Rooms	37,061	44,847	38,128	46,072	7,362	10,057
Household Generated Long-Distance Trips - All	14,079,435	16,714,238	9,816,722	11,688,208	6,899,468	8,083,586
Household Generated Long-Distance Trips - Air	5,668,990	6,713,279	4,128,913	4,920,640	2,258,246	2,649,193
Household Generated Long-Distance Trips - Auto	7,726,705	9,199,316	4,985,127	5,938,259	4,179,126	4,893,766
Hotel Generated Air Trips	1,708,171	2,066,486	1,754,847	2,114,167	307,527	418,685
Other Air-Trips - Day Visitors	590,693	665,728	483,519	505,057	174,147	182,174
Total Generated Air-Trips	**7,967,863**	**9,445,479**	**6,367,279**	**7,539,866**	**2,739,920**	**3,250,055**
Total Air-Trips Per Household	5.51	6.31	5.40	6.23	3.28	3.76
Total Air-Trips Per $100,000 Aggregate Income	7.86	7.83	9.64	9.58	6.34	6.42
Total Air-Trips Per Job	3.16	3.32	3.03	3.44	3.24	3.66
Air Modal Split for Household Generated Long-Dist. Trips	40%	40%	42%	42%	33%	33%
Data Category	**1990**	**2030**	**1990**	**2030**	**1990**	**2030**
Households	1,386,054	1,653,862	1,136,352	1,443,635	804,950	1,159,750
Total Population	3,857,592	4,576,153	3,252,626	3,973,748	2,318,888	3,238,512
Average Household Income (1989 dollars)	65,572	109,011	51,140	96,106	48,457	95,042
Aggregate Household Income (1989 dollars)	90,886,132,443	180,288,832,922	58,112,880,460	138,741,995,702	39,005,462,070	110,225,215,130
Total Employment	2,286,661	3,420,456	2,086,623	2,670,067	838,434	1,296,685
Hotel Rooms	29,243	-	30,171	-	4,654	-

Source: The al Chalabi Group, Ltd., NIPC, 2003.

Exhibit 1-4
2000 Air Trips by Planning Zone



Section 4 - Passenger Destination Markets

Passenger destination markets were identified by examining data from the U.S Department of Transportation Onboard T-100[56]/T-3[57] and Origin-Destination (O/D) Surveys of Airline Passenger Traffic for O'Hare International Airport and Midway International Airport. The data details the O/D enplanements from Chicago to every airport in the U.S. A table was prepared listing the total O/D enplanements from ORD and MDW and selected airports for federal fiscal year 2000.

The percentage of O/D enplanements traveling between Chicago and a specific airport was used to calculate the total O/D enplanements potentially traveling to that airport from within the SSA primary passenger market, by multiplying the total enplanements for the SSA primary passenger market with the percentage for that airport (see Appendix 1). The potential number of enplanements to various destinations within the SSA primary service area is based on the results of the long distance survey. O/D enplanements traveling to airports within the same CMSA were then consolidated into one single market. For example, the New York CMSA includes JFK International, LaGuardia, Newark International, Long Island-McArthur, and Westchester Airports among others. Thus, enplanements originating from within the SSA primary passenger market to those airports were added together to determine the potential demand from the SSA primary passenger market to the New York CMSA.

Table 1-10 identifies the destinations that are most likely to potentially develop at SSA during the initial years of operation. For purposes of this exercise, it is assumed that a minimum of 40,000 annual enplanements in the SSA primary passenger market is required for a destination to be considered viable for service from SSA. This level of enplanements roughly equates to one departure a day by a Boeing 737-700 or two flights a day by a Boeing 717 or equivalent. Thus, 19 potential destinations for the IAP are identified in Table 1-10, based on the enplanements generated by the SSA primary passenger market. Appendix 1 lists all of the estimated enplanements by destination for over 240 U.S. airports for Federal fiscal year 2000.

Air trips for 2010 were estimated by using an annual growth rate of 3 percent, resulting in an increase from 1.7 million in 2000 to 2.3 million in 2010. The year 2010 roughly corresponds with the first year of potential operation of SSA. The recommended growth rate of 3 percent is based on the NIPC projected growth in aggregate household income, population and income within the SSA primary passenger market.[58] A regression analysis of the 1995 market survey data showed a high correlation (r-squared of 0.93) between long-distance person-trips in the Chicago region and aggregate household income.[59]

[56] This table combines domestic and international T-100 segment data by U.S. and foreign air carriers, and contains non-stop segment data by aircraft type and service class for passengers transported, freight and mail transported, available capacity, scheduled departures, departures performed, and aircraft hours. - Bureau of Transportation Statistics, US Department of Transportation.
[57] This table contains scheduled and non-scheduled passenger and freight information by carrier and airport, and provides such items as departures performed, freight, mail, passengers, U.S. mail, foreign mail, and a domestic/foreign activity indicator. - Bureau of Transportation Statistics, US Department of Transportation.
[58] Northeastern Illinois Planning Commission, 2030 Forecast Numbers for Northeastern Illinois, September 30, 2003.
[59] The al Chalabi Group, Ltd., Market Survey of Potential Users: South Suburban Airport, 1995.

Table 1-10
South Suburban Airport Primary Passenger Market
Potential Passenger Enplanements

Passenger Destination Market	Fiscal Year 2000	Fiscal Year 2010
1. New York City CMSA	120,535	162,143
2. Los Angeles CMSA	100,182	134,764
3. Washington/Baltimore CMSA	98,498	132,499
4. San Francisco/Bay Area CMSA	78,501	105,599
5. Las Vegas	71,491	96,169
6. Orlando	66,729	89,764
7. Boston CMSA	65,503	88,114
8. Miami/Ft. Lauderdale CMSA	64,953	87,375
9. Phoenix	60,933	81,967
10. Atlanta	60,160	80,927
11. Minneapolis/St. Paul	59,841	80,497
12. Dallas – Ft. Worth CMSA	47,993	64,560
13. Denver	44,336	59,641
14. Detroit CMSA	44,028	59,468
15. Kansas City	38,692	52,048
16. Philadelphia	38,421	51,684
17. Cleveland	32,441	43,639
18. Tampa	32,139	43,233
19. Houston CMSA	30,401	40,895

Source: USDOT Airline Origin-Destination Survey and Market Survey of Potential Users: South Suburban Airport, al Chalabi Group, Ltd, in association with Market Facts, 1995.
Note: The term CMSA indicates metropolitan areas with more than one air carrier airport serving the area.

The same modal split was used for long distance trips in 2010 as in 2000, which is considered conservative since the modal split between air and ground transportation is intrinsically related to the distance to the airport. This means the closer the airport is to long distance travelers the greater the likelihood for them to use air transportation as their travel mode. The long-distance travel survey defined long-distance trips as trips greater than 150 miles from the Chicago region.[60] The modal split for these long-distance trips was determined to be 38 percent, based on survey results and a comparison of the results with historical data from the U.S. Travel Data Center.[61] In other words, 38 percent of all long-distance trips generated within the SSA primary passenger market are completed by air; the other 62 percent of long-distance trips are completed by auto or other modes of travel. In addition, a new airport with passenger service could also increase the demand for air long-distance travel. However, this demand was not calculated nor factored into the forecasted air trips.

[60] The al Chalabi Group, Ltd., Market Survey of Potential Users: South Suburban Airport, 1995.
[61] Ibid.

Section 5 - Expected South Suburban Airport Air Passenger Role

An analysis of the existing U.S. airline industry and multi-airport systems was conducted to determine the potential role SSA would have in the Chicago airport system. Secondary or supplemental airports exist in a number of metropolitan areas in the U.S., including Los Angeles, Boston, New York, San Francisco, and Washington, D.C., among others. In most of these cases, a secondary or supplemental airport developed through expansion of an existing airport, with some exceptions.

The existing Chicago area airports have established markets and airlines and are assumed to continue those roles and be served by the same airlines in the future as they are today. ORD is dominated by mainline and foreign flag carriers, while MDW is dominated by domestic low-cost carriers. Historically, GYY has had intermittent commercial passenger service. In February 2004, Southeast Airlines began scheduled charter service and Hooters Air has announced it will begin scheduled charter service from GYY in June of 2004.[62]

It is assumed that a supplemental airport would not likely attract any mainline carriers that serviced ORD in 2003, since these carriers have established markets and considerable amounts of money invested at that airport. Similarly, it is also assumed that airlines serving MDW in 2003 would also not likely be attracted to SSA, since they have recently invested substantial amounts of time and money to modernize that airport.

A preliminary financial/market analysis[63] of the Chicago region concluded that the sector of the air passenger market with the greatest likelihood of expanding in the Chicago region would be that of domestic low-cost carriers. Low-cost carriers (LCC) are defined as airlines that primarily operate point-to-point destinations, operate relatively homogeneous aircraft fleets, have low operating costs, tend to use supplemental/secondary airports, and generally offer attractively priced fares. Although there are some notable exceptions (such as AirTran in Atlanta and Frontier in Denver), for purposes of this analysis, this definition of low-cost carriers is used. Traditionally, low-cost carriers have attracted leisure travelers, but as amenities have disappeared from the mainline carriers, more and more business travelers are also utilizing low-cost carriers.[64] In addition, low-cost carriers have increased flight frequencies on some routes to make themselves more attractive to business travelers. For example, JetBlue Airways increased flights between Long Beach, California and JFK International Airport in New York, from 3 each way to 5 each way in 2002.[65] Some low-cost carriers, like JetBlue, have also added unique amenities, such as DirectTV, to create greater appeal to passengers.[66]

The preliminary financial/market analysis examined the routes served by airlines in Chicago and determined that only 19 percent of the routes in June 2001 were served by low-cost carriers.[67] However, on those routes that low-cost carriers were operating, they captured 26 percent of the air passenger traffic.[68] In 2002, that capture rate had increased to nearly 30 percent. Nationally, low-cost carriers, such as AirTran Airways and Spirit, have experienced annual passenger growth rates of 20.5 and 28.4 percent, respectively, since 1998.[69]

[62] Gary-Chicago International Airport, http://www.garychicagoairport.com/PressRelease_detail.asp?ID=31, 2004.
[63] LEK analysis, 2003.
[64] FAA, FAA Aerospace Forecasts: Fiscal Years 2003-2014, March 2003.
[65] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.
[66] JetBlue Airways, http://www.jetblue.com/havefun/index.html, 2004.
[67] O&D Plus, U.S. DOT Airline Origin-Destination Survey, LEK analysis, 2003.
[68] Ibid.
[69] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.

For these reasons, it is assumed that low-cost carriers would be most attracted to an unconstrained start-up airport with low operating costs. Thus, in order to attract low-cost carriers to the IAP at SSA, airline-operating costs must be kept low relative to other area airports. A financial analysis of SSA will be presented in subsequent reports. It is anticipated that little or no hubbing operations will exist during the Inaugural Airport Program (IAP) at SSA, which also means that few connecting enplanements are expected. Since commuter/regional airlines typically feed passengers into hubbing operations, little commuter activity is expected to take place during the IAP at SSA. Similarly, international operations by scheduled passenger airlines are not anticipated to develop at SSA during the IAP. If international activity does commence during the IAP, it is anticipated that it would be in the form of charter service on a seasonal basis. Domestic charter service to vacation destinations may also appear during the first years of operation.

Section 6 - Expected Aircraft Fleet and Load Factors

The air carriers expected to be attracted to SSA are low-cost carriers, as discussed previously. Low-cost carriers typically operate nearly homogeneous aircraft fleets, in order to save money on training, maintenance and facilities (see Table 1-11). If an airline operates only one or two types of jets, then all of their pilots and crew are easily transferred from one route to another and can work on any aircraft operated by the airline. Since SSA is expected to be predominantly served by low-cost carriers on domestic routes, the expected aircraft fleet mix will be narrowbody jets with some regional jets, as is the case at some supplemental airports where low-cost carriers handle a large portion of the air passenger activity (i.e., Providence, Manchester and Oakland[70]). This is discussed in further detail in the aircraft fleet mix paper contained in Appendix 2. Table 1-11 provides the fleet mixes in 2003 for six traditional U.S. "low-cost carriers".

Recent USDOT T-100 airline statistics[71] were reviewed to verify aircraft sizes, load factors and frequencies for low-cost carriers. Several airlines were reviewed (JetBlue, AirTran, Spirit and Southwest Airlines), in order to determine and verify prevailing trends with low-cost airlines. Particularly, airlines in markets that are traditionally considered business-oriented destinations or in markets with a multi-airport system were examined. For instance, in 2002 Spirit Airlines had overall average departure load factors at La Guardia Airport and Los Angeles International of 78.2 and 79.8 percent respectively (see Appendix 3). Load factors are defined as the ratio of actual passengers onboard an aircraft to the number of seats on that aircraft. In the same year AirTran experienced load factors of 72.2 and 79.6 percent at La Guardia and Minneapolis/St. Paul, respectively (see Appendix 3). JetBlue had an average load factor at Washington Dulles International of 78.4 percent during the same period (see Appendix 3). For their overall network, JetBlue and Spirit had load factors of 80.3 and 73.0 percent in 2002, a year when most of the mainline carriers had considerably lower load factors as a result of the downturn in the economy and repercussions of the September 11, 2001 terrorist attacks (see Appendix 3).

As another example, Manchester, New Hampshire Airport (MHT) experienced load factors of 75.4, 74.9 and 73.5 percent in the years 1999, 2000 and 2001 (see Appendix 2). This airport is predominantly served by low-cost carriers[72] and operates as a supplemental airport within the Boston metropolitan area.

[70] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.
[71] Ibid.
[72] Ibid.

Table 1-11
Aircraft Fleet Mix of Low-Cost Carriers, 2003

Airline	Aircraft	Number of Aircraft	Number of Seats per Aircraft
AirTran Airways	Boeing (Douglas) DC-9-32	20	106
	Boeing 717-200 Series	73*	117
	Canadair RJ200	7[1]	50
ATA Airlines	Boeing 737-800 Series	31	175
	Boeing 757-200 Series	16	216
	Boeing 757-300 Series	12*	244
	Lockheed L1011 TriStar 50/100	9	362
	Lockheed L1011 TriStar 500	5	307
	Saab 340B	17	34
Frontier Airlines	Airbus A318-111	4*	114
	Airbus A319-111	22*	132
	Boeing 737-200 Series	5	108
	Boeing 737-300 Series	16	136-138
	Canadair RJ200	1[2]	50
JetBlue Airways	Airbus A320-232	44*	162
Southwest Airlines	Boeing 737-200 Series	29	122
	Boeing 737-300 Series	194	137
	Boeing 737-500 Series	25	122
	Boeing 737-700 Series	146*	137
Spirit Airlines	Boeing (Douglas) DC-9-31/2	4	120
	Boeing (Douglas) DC-9-41	2	120
	Boeing (Douglas) MD-80 Series	27	156

Source: jp Airlines - Fleets International, Edition 2003/04 bu Ulrich Klee, Bucher & Co., Publikationen, Zurich, Switzerland, April 2003.
*Includes aircraft scheduled for delivery in 2003.
[1] Operates as AirTran Jet Connect by Air Wisconsin
[2] Operates as Frontier JetExpress by Mesa Airlines

IDOT assumes that scheduled passenger aircraft larger than the B-737-800 or Airbus A-320, which average 150 seats, would not operate at SSA during the first five years of operation. The most common aircraft assumed in the forecast are the B-737-700 (132 seats), B-717-200 and A-319 (117 seats), Bombardier CRJ 700 and Embraer 170 (70 seats) and Bombardier CRJ 900 and Embraer 190 (90 seats). A list of commercial aircraft, their maximum seating capacity and maximum flight range is provided in Appendix 4. The aircraft fleet assumptions are based on a review of the introduction of service by JetBlue at Ft. Lauderdale International Airport in Florida and Long Beach Airport in California, as well as Southwest Airlines at Manchester Airport in New Hampshire. These airports were chosen since they are part of a multi-airport system and air passenger service at SSA could be expected to develop in a similar manner.

Appendix 2 describes the shift in the air carrier passenger fleet mix that has occurred in the U.S. since 1990. A number of airlines that were formerly classified strictly as commuter airlines (carriers that operate only aircraft of 60 seats or less) became Form 41 airlines[73] during this time period. The end result has been that airlines that were not included in the passenger fleet statistics before are now included. Since these new Form 41 airlines tend to have fleets dominated by smaller regional jets and commuter aircraft, it has had the effect of dropping the average number of seats per aircraft in the U.S. passenger fleet. Also, at the same time this was occurring, airlines were replacing B-727-200 aircraft with smaller planes like the B-737-700. Most of the low-cost carriers, as shown in Appendix 2, tend to use aircraft with seating configurations of between 101 to 160 seats. For these reasons, IDOT assumes that the passenger fleet at SSA will be dominated by B-717, B-737 and A-320/310, along with some regional jets.

[73] A reference to the schedule of forms submitted by large certificated air carriers to the Bureau of Transportation Statistics.

Based on the load factors and aircraft fleet mix of U.S. low-cost carriers (discussed above and in Appendix 2), IDOT assumes that the regional jets[74] [Bombardier CRJ 700 and Embraer 170 (70 seats), Bombardier CRJ 900 and Embraer 190 (90 seats)] will be mainly used for business destinations within a flight range of 1,000 nautical miles (i.e., Washington/Baltimore, Atlanta, Boston, Minneapolis, and Dallas-Fort Worth), with load factors of 70-75 percent. For leisure vacation markets such as Las Vegas and Orlando, IDOT expects the use of larger aircraft [B-737-800 or Airbus 320 (150 seats)] with higher load factors [75-80%]. For destinations containing a mixture of business and leisure travelers and low flight frequencies, IDOT assumes that these would be served by either B-737-700 (132 seats) or B-717-200 (117 seats) aircraft. Those markets located more than 1,000 nautical miles from SSA will tend to use larger aircraft since they are expected to have lower frequencies.

IDOT also analyzed recent trends in aircraft load factors for departing passenger aircraft. Based on U.S. DOT T-100 data, the overall domestic departure load factor has risen since 1990, from an average of 55.9 percent to 66.8 percent in 2002.[75] Appendix 3 details the load factors of several low-cost carriers in recent years, revealing that low-cost carriers almost consistently experience higher load factors than the major U.S air carriers.

In summary, IDOT assumes that for business, short, and medium range markets, the maximum average load factor would be about 75 percent. For longer range and leisure destinations, the maximum average load factors are assumed to be 80 percent. IDOT believes that the load factors proposed for the SSA forecasts are consistent with the load factors recently being realized by the airline sector expected to predominate at SSA.

Section 7 – Forecasts of IAP Air Passenger Aviation Activity

Three air passenger forecast scenarios were developed for the IAP at SSA: base case, low case and high case. The primary difference between the forecast ranges is the assumption on how quickly air passenger service will develop at SSA. The assumptions on aircraft fleet, load factors, markets served and flight frequencies are consistent between the base, low and high ranges. For some of the business-oriented markets, the ranges have different frequencies to the same destination.

The range of enplaned passengers forecasted for each potential destination during the first five years of operation does not surpass the total potential enplanements for that destination market within the 2010 SSA primary passenger market, as listed in Table 1-10. The enplaned passengers forecasted are only those originating from within the SSA primary passenger market. No originating passengers are assumed to utilize SSA from outside of the SSA primary passenger market. While some passengers originating outside of the SSA primary passenger market may begin their air trips at SSA during the first 5 years of operation, IDOT assumes that these enplanements would be relatively minimal. Thus, they were not factored into the forecasts for DBO+1 through DBO+5.

At DBO, it is anticipated that scheduled passenger service would be offered first to leisure markets, such as Las Vegas, Nevada and Orlando, Florida. After DBO, air passenger scheduled service could be initiated to the business/leisure destinations of Los Angeles and New York, the top two passenger destinations within the SSA primary passenger market, as shown previously in Table 1-10. The introduction of new passenger markets is assumed to gradually increase during the first years of airport operation. The proposed daily airline schedules, which are the foundation for

[74] JetBlue has 100 Embraer 190 (90 seats) on order; SkyWest and US Airways have 30 and 75, respectively, Bombardier CRJ 700 on order. Source: Embraer and Bombardier websites, January 2004.
[75] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.

the IAP air passenger forecasts between Date of Beneficial Occupancy (DBO) +1 to DBO+5, assume a gradual development of the passenger service market.

The assumptions used in developing the schedules are considered conservative compared to some recent examples where low-cost carriers have aggressively introduced operations into new markets. For instance, JetBlue at Long Beach Airport (California) and Southwest Airlines at Manchester Airport (New Hampshire) were very assertive when they initiated operations, starting at the outset with high frequency to several destinations and then adding new destinations.[76] This is more common for short- and medium-range flights, i.e., less than 1,000 miles. However, it is hard to predict how passenger service will develop at a new airport; therefore, the forecasts use conservative assumptions to predict potential activity at the new airport.

The forecast assumes that the top markets east of the Mississippi River would initially have greater likelihood of attracting air passenger service at SSA due to their geographic proximity. Because of longer distances, travel times and time zone changes, west coast destinations (i.e., San Francisco and Los Angeles) were incorporated later in the proposed flight schedule even though they have potentially greater market demand within the SSA primary passenger market, as shown in Table 1-10.

For scheduled aircraft operations, leisure destination flight frequencies were limited to 2 per day, while in markets with a mix of business and leisure passengers, flight frequencies are initially assumed to be 3 per day in order to attract business travelers.

The assumed load factors are based upon industry trends where long-range markets (greater than 1,000 nautical miles) tend to have higher load factors than medium- and short-range (less than or equal to 1,000 nautical miles) destinations. This is because less flight frequency is typically associated with long-range markets due to longer travel times. In some of the larger destination markets, the flight frequency is expected to increase during the IAP due to potential passenger demand within the SSA primary passenger market. After a new flight is introduced in a market, the forecast assumes that the aircraft load factor would decrease by 5 percent, gradually increasing as the market matures.

Base Case Forecast

The Base Case Forecast assumes IAP will serve two destinations at DBO, increasing to three by DBO+1. A total of ten destination markets are forecast by the end of DBO+5. Case studies of airlines introducing service into new markets were reviewed in the development of this forecast. For instance, JetBlue, which began operations in 2000, was examined for guidelines concerning frequency and load factors.[77]

In some markets, JetBlue started with an average of two flights per day.[78] Similarly, in 2002 on the Ft. Lauderdale - Washington Dulles route, the airline averaged two daily flights in each direction with a load factor of 78.1 percent.[79] Likewise, JetBlue introduced two departures per day in each direction on the Long Beach, CA - Washington Dulles market in 2002. The average load factor on this route was 82.9 percent.[80] Also in 2002, Spirit Airlines started service on the Las Vegas – Detroit route with one departure per day increasing to two by the end of the year. The average load factor during this period was 82.4 percent.[81]

[76] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.
[77] Ibid and Appendix 3.
[78] Ibid and Appendix 3.
[79] Ibid and Appendix 3.
[80] Ibid and Appendix 3.
[81] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd. and Appendix 3.

Using the assumptions outlined above, a daily air carrier schedule was developed to estimate the annual enplaned passengers for the base forecast scenario. The Base Case Forecast is presented in Table 1-12 and includes the following information:

- Potential Destination
- Quarter after Date of Beneficial Opening (DBO)
- Flight Frequency
- Aircraft size
- Load Factor
- Enplanements

The information highlighted in red italics on Table 1-12 denotes a change in frequency or the introduction of a new passenger destination.

Low Case Forecast

The Low Case Forecast assumes that air passenger service at SSA will develop slower than the Base Case Forecast. In fact, it assumes that no passenger service will materialize at SSA until the end of the first year. It also assumes that passenger service will develop at a slower rate, with fewer destinations than the Base Case Forecast. By the end of DBO+5, this forecast assumes that SSA would have flights to six different domestic destinations with approximately 15 daily departures. Table 1-13 presents the Low Case Forecast by quarter. The information highlighted in red italics on Table 1-13 denotes a change in frequency or the introduction of a new passenger destination.

High Case Forecast

The High Case Forecast assumes that passenger airlines will introduce new routes at a slightly faster rate than under the Base Case Forecast. This forecast assumes that passenger airlines realize high load factors and demand faster than under the Base Case Forecast. Four destinations would be served at the end of DBO+1, which would grow to 14 destinations by the end of DBO+5. Otherwise, the same assumptions utilized in the Base Case Forecast are incorporated into this forecast. Table 1-14 shows the destinations, flight frequencies, aircraft size, load factor and enplanements for the High Case Forecast.

The information highlighted in red italics on Table 1-14 denotes a change in frequency or the introduction of a new passenger destination.

Table 1-12
Base Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
LAS	NV	***Las Vegas***	Q1	1	***1***	150	150	75%	10,125
MCO	FL	***Orlando***	Q1	1	***1***	150	150	70%	9,450
		Sum/Average	Q1	**2**	***2***	**150**	**300**	**73%**	**19,575**
LAS	NV	Las Vegas	Q2	1	1	150	150	80%	10,800
MCO	FL	Orlando	Q2	1	1	150	150	75%	10,125
		Sum/Average	Q2	**2**	**2**	**150**	**300**	**78%**	**20,925**
LAS	NV	***Las Vegas***	Q3	1	***2***	150	300	70%	18,900
MCO	FL	Orlando	Q3	1	1	150	150	75%	10,125
PHX	AZ	***Phoenix***	Q3	1	***1***	132	132	70%	8,316
		Sum/Average	Q3	**3**	***4***	**146**	**582**	**71%**	**37,341**
LAS	NV	Las Vegas	Q4	1	2	150	300	75%	20,250
MCO	FL	***Orlando***	Q4	1	***2***	150	300	70%	18,900
PHX	AZ	Phoenix	Q4	1	1	132	132	75%	8,910
		Sum/Average	Q4	**3**	***5***	**146**	**732**	**73%**	**48,060**
		DBO+1							**125,901**
LA+	CA	***Los Angeles CMSA***	Q5	1	***1***	132	132	65%	7,722
LAS	NV	Las Vegas	Q5	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q5	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q5	1	1	132	132	80%	9,504
		Sum/Average	Q5	**4**	***6***	**144**	**864**	**76%**	**59,076**
LA+	CA	Los Angeles CMSA	Q6	1	1	132	132	70%	8,316
LAS	NV	Las Vegas	Q6	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q6	1	2	150	300	75%	20,250
PHX	AZ	***Phoenix***	Q6	1	***2***	132	264	70%	16,632
		Sum/Average	Q6	**4**	***7***	**142**	**996**	**75%**	**66,798**
LA+	CA	***Los Angeles CMSA***	Q7	1	***2***	132	264	70%	16,632
LAS	NV	Las Vegas	Q7	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q7	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q7	1	2	132	264	75%	17,820
		Sum/Average	Q7	**4**	***8***	**141**	**1,128**	**75%**	**76,302**
LA+	CA	Los Angeles CMSA	Q8	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q8	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q8	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q8	1	2	132	264	75%	17,820
		Sum/Average	Q8	**4**	**8**	**141**	**1,128**	**78%**	**78,678**
		DBO+2							**280,854**

Table 1-12
Base Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
NY+	NY	***New York CMSA***	Q9	1	***3***	117	351	65%	20,534
LA+	CA	Los Angeles CMSA	Q9	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q9	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q9	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q9	1	2	132	264	80%	19,008
		Sum/Average	Q9	**5**	***11***	**134**	**1,479**	**75%**	**100,400**
NY+	NY	New York CMSA	Q10	1	3	117	351	70%	22,113
LA+	CA	Los Angeles CMSA	Q10	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q10	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q10	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q10	1	2	132	264	80%	19,008
		Sum/Average	Q10	**5**	**11**	**134**	**1,479**	**77%**	**101,979**
NY+	NY	New York CMSA	Q11	1	3	117	351	75%	23,693
LA+	CA	Los Angeles CMSA	Q11	1	2	132	264	80%	19,008
WS+	DC	***Washington/Baltimore CMSA***	Q11	1	***3***	70	210	70%	13,230
LAS	NV	Las Vegas	Q11	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q11	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q11	1	2	132	264	80%	19,008
		Sum/Average	Q11	**6**	***14***	**121**	**1,689**	**77%**	**116,789**
NY+	NY	New York CMSA	Q12	1	3	117	351	75%	23,693
LA+	CA	Los Angeles CMSA	Q12	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q12	1	3	70	210	75%	14,175
LAS	NV	Las Vegas	Q12	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q12	1	2	150	300	80%	21,600
PHX	AZ	Phoenix	Q12	1	2	132	264	80%	19,008
		Sum/Average	Q12	**6**	**14**	**121**	**1,689**	**78%**	**119,084**
		DBO+3							**438,251**
NY+	NY	***New York CMSA***	Q13	1	***4***	117	468	65%	27,378
LA+	CA	Los Angeles CMSA	Q13	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q13	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q13	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q13	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q13	1	2	132	264	80%	19,008
MIA	FL	***Miami/ Ft Lauderdale CMSA***	Q13	1	***1***	117	117	70%	7,371
		Sum/Average	Q13	**7**	***16***	**124**	**1,983**	**74%**	**132,840**
NY+	NY	New York CMSA	Q14	1	4	117	468	70%	29,484
LA+	CA	Los Angeles CMSA	Q14	1	2	132	264	80%	19,008

Table 1-12
Base Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
WS+	DC	Washington/Baltimore CMSA	Q14	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q14	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q14	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q14	1	2	132	264	80%	19,008
MIA	FL	Miami/ Ft Lauderdale CMSA	Q14	1	1	117	117	75%	7,898
		Sum/Average	Q14	**7**	**16**	**124**	**1,983**	**76%**	**135,473**
NY+	NY	New York CMSA	Q15	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q15	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q15	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q15	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q15	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q15	1	2	132	264	80%	19,008
ATL	GA	***Atlanta***	Q15	1	***2***	90	180	65%	10,530
MIA	FL	Miami/ Ft Lauderdale CMSA	Q15	1	1	117	117	75%	7,898
		Sum/Average	Q15	**8**	***18***	**120**	**2,163**	**76%**	**148,109**
NY+	NY	New York CMSA	Q16	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q16	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q16	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q16	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q16	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q16	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q16	1	2	90	180	70%	11,340
MIA	FL	***Miami/ Ft Lauderdale CMSA***	Q16	1	***2***	117	234	70%	14,742
		Sum/Average	Q16	**8**	***19***	**120**	**2,280**	**76%**	**155,763**
		DBO+4							**572,184**
NY+	NY	New York CMSA	Q17	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q17	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q17	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q17	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q17	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q17	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q17	1	2	90	180	75%	12,150
MIA	FL	Miami/ Ft Lauderdale CMSA	Q17	1	2	117	234	75%	15,795
		Sum/Average	Q17	**8**	**19**	**120**	**2,280**	**77%**	**157,626**
NY+	NY	New York CMSA	Q18	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q18	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q18	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q18	1	2	150	300	80%	21,600

Table 1-12
Base Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
MCO	FL	Orlando	Q18	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q18	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q18	1	2	90	180	75%	12,150
BOS	MA	***Boston CMSA***	Q18	1	***3***	90	270	65%	15,795
MIA	FL	Miami/ Ft Lauderdale CMSA	Q18	1	2	117	234	75%	15,795
		Sum/Average	Q18	**9**	***22***	**116**	**2,550**	**76%**	**173,421**
NY+	NY	New York CMSA	Q19	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q19	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q19	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q19	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q19	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q19	1	2	132	264	80%	19,008
ATL	GA	***Atlanta***	Q19	1	***3***	90	270	70%	17,010
BOS	MA	Boston CMSA	Q19	1	3	90	270	70%	17,010
MIA	FL	Miami/ Ft Lauderdale CMSA	Q19	1	2	117	234	75%	15,795
		Sum/Average	Q19	**9**	**23**	**115**	**2,640**	**76%**	**179,496**
NY+	NY	New York CMSA	Q20	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q20	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q20	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q20	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q20	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q20	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q20	1	3	90	270	75%	18,225
SFO	CA	***San Francisco/ Oakland CMSA***	Q20	1	***2***	132	264	70%	16,632
BOS	MA	Boston CMSA	Q20	1	3	90	270	75%	18,225
MIA	FL	Miami/Ft Lauderdale CMSA	Q20	1	2	117	234	75%	15,795
		Sum/Average	Q20	**10**	***25***	**116**	**2,904**	**76%**	**198,558**
		DBO+5							**709,101**

Source: The al Chalabi Group, Ltd., TAMS, 2003. Note: Red Highlights denote change in frequency or introduction of new destination.

Table 1-13
Low Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
			Q1	0	0	0	0	0%	0
		Sum/Average	Q1	**0**	**0**	**0**	**0**	**0%**	**0**
			Q2	0	0	0	0	0%	0
		Sum/Average	Q2	**0**	**0**	**0**	**0**	**0%**	**0**
			Q3	0	0	0	0	0%	0
		Sum/Average	Q3	**0**	**0**	**0**	**0**	**0%**	**0**
LAS	NV	***Las Vegas***	Q4	1	***1***	150	150	75%	10,125
MCO	FL	***Orlando***	Q4	1	***1***	150	150	70%	9,450
		Sum/Average	Q4	**2**	***2***	**150**	**300**	**73%**	**19,575**
		DBO + 1							**19,575**
LAS	NV	Las Vegas	Q5	1	1	150	150	80%	10,800
MCO	FL	Orlando	Q5	1	1	150	150	75%	10,125
		Sum/Average	Q5	**2**	**2**	**150**	**300**	**78%**	**20,925**
LAS	NV	***Las Vegas***	Q6	1	***2***	150	300	70%	18,900
MCO	FL	Orlando	Q6	1	1	150	150	75%	10,125
		Sum/Average	Q6	**2**	***3***	**150**	**450**	**72%**	**29,025**
LAS	NV	Las Vegas	Q7	1	2	150	300	75%	20,250
MCO	FL	***Orlando***	Q7	1	***2***	150	300	70%	18,900
PHX	AZ	Phoenix	Q7	1	1	132	132	75%	8,910
		Sum/Average	Q7	**3**	***5***	**146**	**732**	**73%**	**48,060**
LAS	NV	Las Vegas	Q8	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q8	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q8	1	1	132	132	80%	9,504
		Sum/Average	Q8	**3**	**5**	**146**	**732**	**78%**	**51,354**
		DBO + 2							**149,364**
LAS	NV	Las Vegas	Q9	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q9	1	2	150	300	75%	20,250
PHX	AZ	***Phoenix***	Q9	1	***2***	132	264	70%	16,632
		Sum/Average	Q9	**3**	***6***	**144**	**864**	**75%**	**58,482**
LA+	CA	***Los Angeles CMSA***	Q10	1	***1***	132	132	65%	7,722
LAS	NV	Las Vegas	Q10	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q10	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q10	1	2	132	264	75%	17,820
		Sum/Average	Q10	**4**	***7***	**142**	**996**	**75%**	**67,392**

Table 1-13
Low Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
LA+	CA	Los Angeles CMSA	Q11	1	1	132	132	75%	8,910
LAS	NV	Las Vegas	Q11	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q11	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q11	1	2	132	264	75%	17,820
		Sum/Average	Q11	**4**	**7**	**142**	**996**	**77%**	**68,580**
LA+	CA	***Los Angeles CMSA***	Q12	1	***2***	132	264	70%	16,632
LAS	NV	Las Vegas	Q12	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q12	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q12	1	2	132	264	80%	19,008
		Sum/Average	Q12	**4**	***8***	**141**	**1,128**	**76%**	**77,490**
		DB0 + 3							**271,944**
LA+	CA	Los Angeles CMSA	Q13	1	2	132	264	75%	17,820
LAS	NV	Las Vegas	Q13	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q13	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q13	1	2	132	264	80%	19,008
		Sum/Average	Q13	**4**	**8**	**141**	**1,128**	**78%**	**78,678**
LA+	CA	Los Angeles CMSA	Q14	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q14	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q14	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q14	1	2	132	264	80%	19,008
		Sum/Average	Q14	**4**	**8**	**141**	**1,128**	**79%**	**79,866**
NY+	NY	***New York CMSA***	Q15	1	***3***	117	351	65%	20,534
LA+	CA	Los Angeles CMSA	Q15	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q15	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q15	1	2	150	300	80%	21,600
PHX	AZ	Phoenix	Q15	1	2	132	264	80%	19,008
		Sum/Average	Q15	**5**	***11***	**134**	**1,479**	**76%**	**101,750**
NY+	NY	New York CMSA	Q16	1	3	117	351	70%	22,113
LA+	CA	Los Angeles CMSA	Q16	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q16	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q16	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q16	1	2	132	264	80%	19,008
		Sum/Average	Q16	**5**	**11**	**134**	**1,479**	**77%**	**101,979**
		DBO + 4							**362,273**
NY+	NY	New York CMSA	Q17	1	3	117	351	75%	23,693
LA+	CA	Los Angeles CMSA	Q17	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q17	1	2	150	300	80%	21,600

Table 1-13
Low Case Forecast of Air Passenger Aviation Activity
IAP from DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
MCO	FL	Orlando	Q17	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q17	1	2	132	264	80%	19,008
		Sum/Average	Q17	**5**	**11**	**134**	**1,479**	**78%**	**103,559**
NY+	NY	***New York CMSA***	Q18	1	***4***	117	468	70%	29,484
LA+	CA	Los Angeles CMSA	Q18	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q18	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q18	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q18	1	2	132	264	80%	19,008
		Sum/Average	Q18	**5**	***12***	**133**	**1,596**	**76%**	**109,350**
NY+	NY	New York CMSA	Q19	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q19	1	2	132	264	80%	19,008
WS+	DC	***Washington/Baltimore CMSA***	Q19	1	***3***	90	270	70%	17,010
LAS	NV	Las Vegas	Q19	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q19	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q19	1	2	132	264	80%	19,008
		Sum/Average	Q19	**6**	***15***	**124**	**1,866**	**76%**	**128,466**
NY+	NY	New York CMSA	Q20	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q20	1	2	132	264	80%	19,008
WS+	DC	Washington/ Baltimore CMSA	Q20	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q20	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q20	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q20	1	2	132	264	80%	19,008
		Sum/Average	Q20	**6**	**15**	**124**	**1,866**	**77%**	**129,681**
		DBO + 5							**471,056**

Source: The al Chalabi Group, Ltd., TAMS, 2003.

Note: Red Highlights denote change in frequency or introduction of new destination.

Table 1-14
High Case Forecast of Air Passenger Aviation Activity
IAP From DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
LAS	NV	***Las Vegas***	Q1	1	***1***	150	150	75%	10,125
MCO	FL	***Orlando***	Q1	1	***1***	150	150	70%	9,450
PHX	AZ	***Phoenix***	Q1	1	***1***	132	132	60%	7,128
		Sum/Average	Q1	**3**	***3***	**144**	**432**	**69%**	**26,703**
LAS	NV	***Las Vegas***	Q2	1	***2***	150	300	70%	18,900
MCO	FL	Orlando	Q2	1	1	150	150	75%	10,125
PHX	AZ	Phoenix	Q2	1	1	132	132	65%	7,722
		Sum/Average	Q2	**3**	**4**	**146**	**582**	**70%**	**36,747**
LAS	NV	Las Vegas	Q3	1	2	150	300	75%	20,250
MCO	FL	***Orlando***	Q3	1	***2***	150	300	70%	18,900
PHX	AZ	Phoenix	Q3	1	1	132	132	70%	8,316
		Sum/Average	Q3	**3**	***5***	**146**	**732**	**72%**	**47,466**
LA+	CA	***Los Angeles CMSA***	Q4	1	***1***	132	132	65%	7,722
LAS	NV	Las Vegas	Q4	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q4	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q4	1	1	132	132	75%	8,910
		Sum/Average	Q4	**4**	***6***	**144**	**864**	**75%**	**58,482**
		DBO+1							**169,398**
LA+	CA	Los Angeles CMSA	Q5	1	1	132	132	75%	8,910
LAS	NV	Las Vegas	Q5	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q5	1	2	150	300	75%	20,250
PHX	AZ	***Phoenix***	Q5	1	***2***	132	264	70%	16,632
		Sum/Average	Q5	**4**	***7***	**142**	**996**	**75%**	**67,392**
LA+	CA	***Los Angeles CMSA***	Q6	1	***2***	132	264	70%	16,632
LAS	NV	Las Vegas	Q6	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q6	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q6	1	2	132	264	75%	17,820
		Sum/Average	Q6	**4**	***8***	**141**	**1,128**	**75%**	**76,302**
NY+	NY	***New York CMSA***	Q7	1	***3***	117	351	60%	18,954
LA+	CA	Los Angeles CMSA	Q7	1	2	132	264	75%	17,820
LAS	NV	Las Vegas	Q7	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q7	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q7	1	2	132	264	80%	19,008
		Sum/Average	Q7	**5**	***11***	**134**	**1,479**	**73%**	**97,632**
NY+	NY	New York CMSA	Q8	1	3	117	351	65%	20,534

Table 1-14
High Case Forecast of Air Passenger Aviation Activity
IAP From DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
LA+	CA	Los Angeles CMSA	Q8	1	2	132	264	80%	19,008
LAS	NV	Las Vegas	Q8	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q8	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q8	1	2	132	264	80%	19,008
		Sum/Average	Q8	**5**	**11**	**134**	**1,479**	**75%**	**100,400**
		DBO+2							**341,726**
NY+	NY	New York CMSA	Q9	1	3	117	351	75%	23,693
LA+	CA	Los Angeles CMSA	Q9	1	2	132	264	80%	19,008
WS+	DC	***Washington/Baltimore CMSA***	Q9	1	***3***	90	270	65%	15,795
LAS	NV	Las Vegas	Q9	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q9	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q9	1	2	132	264	80%	19,008
		Sum/Average	Q9	**6**	***14***	**125**	**1,749**	**76%**	**119,354**
NY+	NY	***New York CMSA***	Q10	1	***4***	117	468	65%	27,378
LA+	CA	Los Angeles CMSA	Q10	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q10	1	3	90	270	70%	17,010
LAS	NV	Las Vegas	Q10	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q10	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q10	1	2	132	264	80%	19,008
		Sum/Average	Q10	**6**	**15**	**124**	**1,866**	**74%**	**124,254**
NY+	NY	New York CMSA	Q11	1	4	117	468	70%	29,484
LA+	CA	Los Angeles CMSA	Q11	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q11	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q11	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q11	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q11	1	2	132	264	80%	19,008
MIA	FL	***Miami/ Ft Lauderdale CMSA***	Q11	1	***2***	117	234	65%	13,689
		Sum/Average	Q11	**7**	***17***	**124**	**2,100**	**75%**	**141,264**
NY+	NY	New York CMSA	Q12	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q12	1	2	132	264	80%	19,008
WS+	DC	Washington/Baltimore CMSA	Q12	1	3	90	270	75%	18,225
LAS	NV	Las Vegas	Q12	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q12	1	2	150	300	80%	21,600
MIA	FL	Miami/Ft Lauderdale CMSA	Q12	1	2	117	234	70%	14,742
		Sum/Average	Q12	**7**	**17**	**124**	**2,100**	**77%**	**145,773**
		DBO+3							**530,645**
NY+	NY	New York CMSA	Q13	1	4	117	468	75%	31,590
LA+	CA	***Los Angeles CMSA***	Q13	1	***3***	132	396	70%	24,948
WS+	DC	***Washington/Baltimore CMSA***	Q13	1	***4***	90	360	70%	22,680

Table 1-14
High Case Forecast of Air Passenger Aviation Activity
IAP From DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
LAS	NV	Las Vegas	Q13	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q13	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q13	1	2	132	264	80%	19,008
ATL	GA	***Atlanta***	Q13	1	***2***	90	180	65%	10,530
MIA	FL	Miami/Ft Lauderdale CMSA	Q13	1	2	117	234	75%	15,795
		Sum/Average	Q13	**8**	***21***	**119**	**2,502**	**74%**	**166,401**
NY+	NY	New York CMSA	Q14	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q14	1	3	132	396	75%	26,730
WS+	DC	Washington/Baltimore CMSA	Q14	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q14	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q14	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q14	1	2	117	234	80%	16,848
ATL	GA	Atlanta	Q14	1	2	90	180	70%	11,340
BOS	MA	***Boston CMSA***	Q14	1	***3***	90	270	65%	15,795
MIA	FL	Miami/Ft Lauderdale CMSA	Q14	1	2	117	234	75%	15,795
		Sum/Average	Q14	**9**	***24***	**114**	**2,742**	**75%**	**184,248**
NY+	NY	New York CMSA	Q15	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q15	1	3	132	396	80%	28,512
WS+	DC	Washington/Baltimore CMSA	Q15	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q15	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q15	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q15	1	2	132	264	80%	19,008
ATL	GA	***Atlanta***	Q15	1	***3***	90	270	65%	15,795
SFO	CA	***San Francisco/Oakland CMSA***	Q15	1	***2***	132	264	65%	15,444
BOS	MA	Boston	Q15	1	3	90	270	70%	17,010
MIA	FL	Miami/Ft Lauderdale CMSA	Q15	1	2	117	234	75%	15,795
		Sum/Average	Q15	**10**	***27***	**116**	**3,126**	**74%**	**209,304**
NY+	NY	New York CMSA	Q16	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q16	1	3	132	396	80%	28,512
WS+	DC	Washington/Baltimore CMSA	Q16	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q16	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q16	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q16	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q16	1	3	90	270	75%	18,225
SFO	CA	San Francisco/Oakland CMSA	Q16	1	2	132	264	75%	17,820
BOS	MA	Boston CMSA	Q16	1	3	90	270	75%	18,225
MIA	FL	Miami/Ft Lauderdale CMSA	Q16	1	2	117	234	75%	15,795
		Sum/Average	Q16	**10**	**27**	**116**	**3,126**	**77%**	**215,325**
		DBO+4							**775,278**

Table 1-14
High Case Forecast of Air Passenger Aviation Activity
IAP From DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
NY+	NY	New York CMSA	Q17	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q17	1	3	132	396	80%	28,512
WS+	DC	Washington/Baltimore CMSA	Q17	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q17	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q17	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q17	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q17	1	3	90	270	75%	18,225
MSP	MN	***Minneapolis/St Paul***	Q17	1	***2***	70	140	65%	8,190
SFO	CA	San Francisco/Oakland CMSA	Q17	1	2	132	264	80%	19,008
BOS	MA	Boston CMSA	Q17	1	3	90	270	75%	18,225
MIA	FL	Miami/Ft Lauderdale CMSA	Q17	1	2	117	234	75%	15,795
		Sum/Average	Q17	**11**	***29***	**113**	**3,266**	**76%**	**224,703**
NY+	NY	New York CMSA	Q18	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q18	1	3	132	396	80%	28,512
WS+	DC	Washington/Baltimore CMSA	Q18	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q18	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q18	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q18	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q18	1	3	90	270	75%	18,225
MSP	MN	Minneapolis/St Paul	Q18	1	2	70	140	70%	8,820
SFO	CA	San Francisco/Oakland CMSA	Q18	1	2	132	264	80%	19,008
DFW	TX	***Dallas-Fort Worth CMSA***	Q18	1	***2***	90	180	65%	10,530
BOS	MA	Boston CMSA	Q18	1	3	90	270	75%	18,225
MIA	FL	Miami/Ft Lauderdale CMSA	Q18	1	2	117	234	75%	15,795
		Sum/Average	Q18	**12**	***31***	**111**	**3,446**	**76%**	**235,863**
NY+	NY	New York CMSA	Q19	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q19	1	3	132	396	80%	28,512
WS+	DC	Washington/Baltimore CMSA	Q19	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q19	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q19	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q19	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q19	1	3	90	270	70%	17,010
MSP	MN	Minneapolis/St Paul	Q19	1	2	70	140	75%	9,450
SFO	CA	San Francisco/Oakland CMSA	Q19	1	2	132	264	80%	19,008
DFW	TX	Dallas-Fort Worth CMSA	Q19	1	2	90	180	70%	11,340
DEN	CO	***Denver***	Q19	1	***2***	90	180	65%	10,530
BOS	MA	Boston CMSA	Q19	1	3	90	270	75%	18,225
MIA	FL	Miami/Ft Lauderdale CMSA	Q19	1	2	117	234	75%	15,795
		Sum/Average	Q19	**13**	***33***	**110**	**3,626**	**76%**	**246,618**

Table 1-14
High Case Forecast of Air Passenger Aviation Activity
IAP From DBO+1 to DBO+5

Location	State	City/Region	Quarter	Destinations Served	Departures Per Day	Seats per Departure	Total Seats	Load Factor	Enplanements
NY+	NY	New York CMSA	Q20	1	4	117	468	75%	31,590
LA+	CA	Los Angeles CMSA	Q20	1	3	132	396	80%	28,512
WS+	DC	Washington/Baltimore CMSA	Q20	1	4	90	360	75%	24,300
LAS	NV	Las Vegas	Q20	1	2	150	300	80%	21,600
MCO	FL	Orlando	Q20	1	2	150	300	75%	20,250
PHX	AZ	Phoenix	Q20	1	2	132	264	80%	19,008
ATL	GA	Atlanta	Q20	1	3	90	270	75%	18,225
MSP	MN	***Minneapolis/St Paul***	Q20	1	***3***	70	210	65%	12,285
SFO	CA	San Francisco/Oakland CMSA	Q20	1	2	132	264	80%	19,008
DFW	TX	Dallas-Fort Worth CMSA	Q20	1	2	90	180	75%	12,150
DEN	CO	Denver	Q20	1	2	90	180	70%	11,340
DTW	MI	***Detroit CMSA***	Q20	1	***2***	70	140	65%	8,190
BOS	MA	Boston CMSA	Q20	1	3	90	270	75%	18,225
MIA	FL	Miami/Ft Lauderdale CMSA	Q20	1	2	117	234	75%	15,795
		Sum/Average	Q20	**14**	***36***	**107**	**3,836**	**75%**	**260,478**
		DBO+5							**967,662**

Source: The al Chalabi Group, Ltd., TAMS, 2003.
Note: Red Highlights denote change in frequency or introduction of new destination.

Table 1-15
Summary of Air Passenger Aviation Activity Forecast Ranges
IAP from DBO+1 to DBO+5

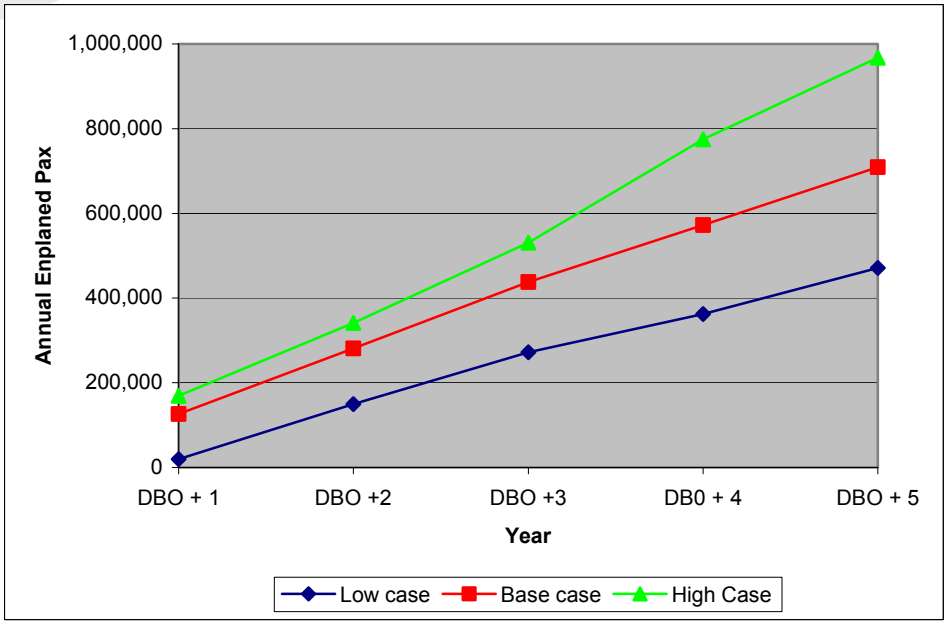
Planning Horizon Year	Low Case Forecast		Base Case Forecast		High Case Forecast	
	Destination	Enplaned Passengers	Destination	Enplaned Passengers	Destination	Enplaned Passengers
DBO + 1	2	19,575	3	125,901	4	169,398
DBO + 2	3	149,364	4	280,854	5	341,726
DBO + 3	4	271,944	6	438,251	7	530,645
DBO + 4	5	362,273	8	572,184	10	775,278
DBO + 5	6	471,056	10	709,101	14	967,662
Avg. Annual Growth (5 Years)		121.5%		54.1%		54.6%
Annual Growth (DBO+5)		30.0%		23.9%		24.8%

Source: The al Chalabi Group, Ltd.; TAMS, an Earth Tech Company, 2004.

Section 8 – Summary of IAP Air Passenger Aviation Activity Forecasts

A summary of the three forecast ranges is presented in Table 1-15 and Exhibit 1-5. The number of destinations represents the markets served by the end of the planning horizon year. The average annual growth rate under each forecast case is also presented. The Low Case Forecast has the highest average annual growth rate due to the very low number of enplanements that the forecast realizes in DBO+1.

Exhibit 1-5
Summary of IAP Air Passenger Aviation Activity Forecast Ranges



Source: TAMS, an Earth Tech Company, 2004.

Table 1-16 presents the three forecast ranges of air passenger activity for the IAP. The forecasts assume that the IAP at SSA will serve the primary passenger market as identified in this chapter (within 45-minute travel time from the airport site with no overlap of the Midway 45-minute travel time passenger market). These aviation forecasts represent a reasonable expectation of the level of air passenger activity that

could develop at SSA during the IAP. As stated previously in this Chapter, the IAP is expected to primarily serve the domestic low-cost carrier market, with relatively little connecting, commuter and international activity.

Table 1-16
IAP Air Passenger Aviation Activity Forecasts

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+1	*DBO+5*
High Case Forecast		
Air Carrier Operations		
Domestic (Includes Charters)	3,400	23,500
Domestic Connections		
Total Domestic	3,400	23,500
International		
Total Air Carrier	3,400	23,500
Air Carrier Instrument	1,700	23,500
Air Carrier Passenger Enplanements		
Domestic O&D	169,400	968,000
Domestic Connections		
Total Domestic	169,400	968,000
International		
Total Air Carrier Enplanements	169,400	968,000
Base Case Forecast		
Air Carrier Operations		
Domestic (Includes Charters)	2,400	16,200
Domestic Connections		
Total Domestic	2,400	16,200
International		
Total Air Carrier	2,400	16,200
Air Carrier Instrument	1,200	16,200
Air Carrier Passenger Enplanements		
Domestic O&D	126,000	709,000
Domestic Connections		
Total Domestic	126,000	709,000
International		
Total Air Carrier Enplanements	126,000	709,000
Low Case Forecast		
Air Carrier Operations		
Domestic (Includes Charters)	360	9,800
Domestic Connections		
Total Domestic	360	9,800
International		
Total Air Carrier	360	9,800
Air Carrier Instrument	180	9,800
Air Carrier Passenger Enplanements		
Domestic O&D	19,600	471,000
Domestic Connections		
Total Domestic	19,600	471,000
International		
Total Air Carrier Enplanements	19,600	471,000

Military and/or other U.S. Government aircraft are expected to use the South Suburban Airport in the future, however, a projection of aeronautical operations and passengers by type and amount is not quantifiable at this time and is expected to be minimal in nature.

Source: TAMS, an Earth Tech Company, 2004.

Section 9 – Long-Range Projections of Air Passenger Aviation Activity

Domestic Air Passenger Aviation Activity

IDOT recognizes that it is difficult to accurately estimate long-range passenger forecasts for a new airport. The three-passenger activity forecast scenarios (low, base and high) for the first five years of operation (discussed in Section 7) were formulated by defining a primary service area that could support an airport within the south suburban area of the greater Chicago region. As stated in Section 3, the service area included all those potential air travelers located within 45 minutes travel time of the proposed site, excluding areas that overlapped with Midway's service area. The expected passenger demand at SSA beyond DBO+5 will greatly depend upon:

- Type of airline service that develops at the new facility;
- Airside and landside facilities that are constructed as part of the IAP;
- Ability of SSA to adapt to potential airline requirements; and
- Vitality of the local and national economy.

IDOT assumes that after DBO+5, the airport could begin to compete with other commercial airports, and that market forces will drive aviation demand at SSA.

FAA regularly prepares long-range forecasts[82] to address the long-term requirements of the U.S. aviation industry. From 2002 to 2014, FAA projects the U.S. domestic aviation market to increase at an annual average growth rate of 3.9 percent.[83] From 2015 to 2030 the FAA forecasts U.S. annual growth rates of 3.3 percent for domestic and 3.9 percent for international passenger markets.[84]

The SSA domestic passenger forecast considers the long-term growth that could occur at SSA in order to assess future potential airport requirements. Thus, long-term projections of air passenger aviation activity have been calculated, using the low case and high case IAP forecasts as foundations to develop a potential range of activity that could occur at SSA in the future.

For purposes of determining long-range projections at SSA, the low long-range projection assumes that domestic passenger enplanements could, in the long run, be inclined to follow the FAA long-term annual growth rates. The potential long-range passenger forecasts have used as a benchmark the historical rates of growth at several airports located in multi-airport systems that have accommodated commercial passenger activity for several years and also have capacity to expand. The growth rates of historical activity at these airports are considered relevant in estimating the long-term passenger potential at SSA since it will operate under similar circumstances (in a multi-airport system) and could reflect what may occur at SSA in the future. Using USDOT T-100 data, domestic passenger activity was reviewed at Ft Lauderdale (FLL), Baltimore-Washington International (BWI), Providence – TF Green (PVD), Oakland International (OAK) and San Jose International (SJC) Airports from 1990 to 2002. All of these airports have had both mainline and low-cost carrier service for several years.[85] This study also calculated growth rates at each airport from 1990 to 2000 and compared them with the growth rates for 1990 to 2002 to isolate the effects of the terrorist attacks of September 11, 2001 and the downturn in the global economy. Table 1-17 shows the average annual growth rates for the above-mentioned airports.

[82] FAA, FAA Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020, 2025 and 2030, June 2003.
[83] Ibid.
[84] Ibid.
[85] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.

Table 1-17
Average Annual Growth Rates of Airports within Multi-Airport Systems

Airport	1990-2002	1990-2000
Ft Lauderdale International	5.9%	6.2%
Baltimore-Washington International	5.9%	7.2%
Providence – TF Green	7.4%	9.0%
Oakland International	7.0%	7.1%
San Jose International	4.0%	6.7%
National Domestic Average	1.9%	3.4%

Source: USDOT-100 data, Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.

As depicted in Table 1-17, these rates of growth have been greater than the U.S. average for at least twelve years, a relatively long period of time. All the airports included in the analysis are located in multi-airport systems. The low IAP forecast scenario identified in Section 7, assumes that domestic passenger activity at DBO+5 will be 471,000 enplanements. Since the low case scenario forecasts 121.5 percent average annual growth between DBO+1 and DBO+5, and 30.0 percent between DBO+4 and DBO+5, IDOT assumes there will be a gradual transition of 10 years to ramp down to the FAA national levels, which is expected to average 3.3 percent per year. Based on these assumptions, the low case long-range projections would be 2.23 million enplanements at DBO+20.

The high SSA long-range projections are also based on case studies of airports where low-cost carrier airlines have established commercial service to multiple destinations from an originating airport within a multi-airport system. In particular, Midway International (MDW), Chicago, Manchester (MHT), New Hampshire and T.F. Green (PVD), Rhode Island Airports were examined (see Appendix 2). Some of the airports included in this discussion have already been addressed beforehand, but this analysis considers different time periods at these airports for the high case long-range projections.

Southwest Airlines initiated service at MDW in 1992 almost simultaneous with the original Midway Airlines declaring bankruptcy and pulling completely out of the Chicago market. According to USDOT T-100 statistics, MDW experienced an average annual passenger growth of 14 percent from 1992 to 2002[86], a much higher growth rate than the national average. Domestic air passenger activity at MDW went from 2.2 to 8.1 million enplaned passengers during this time period.[87]

In the case of Manchester Airport, it is important to note that Southwest was already providing service to the Boston CMSA from Providence – TF Green. MHT experienced an average annual growth of 25.8 percent from 1996 to 2002, even with a decrease in activity over the last two years.[88] Between 1996 and 2000, the domestic air passenger activity growth rate at MHT was 39.9 percent.[89]

Providence TF Green had an average annual growth of 14.5 percent between 1995 and 2002[90], which is similar to the growth rate experienced at Midway, but over a shorter time period. Other airports were also examined where some LCC activity exists, such as Baltimore-Washington (BWI) and Oakland International (OAK) Airports. These two airports include a mix of scheduled commercial

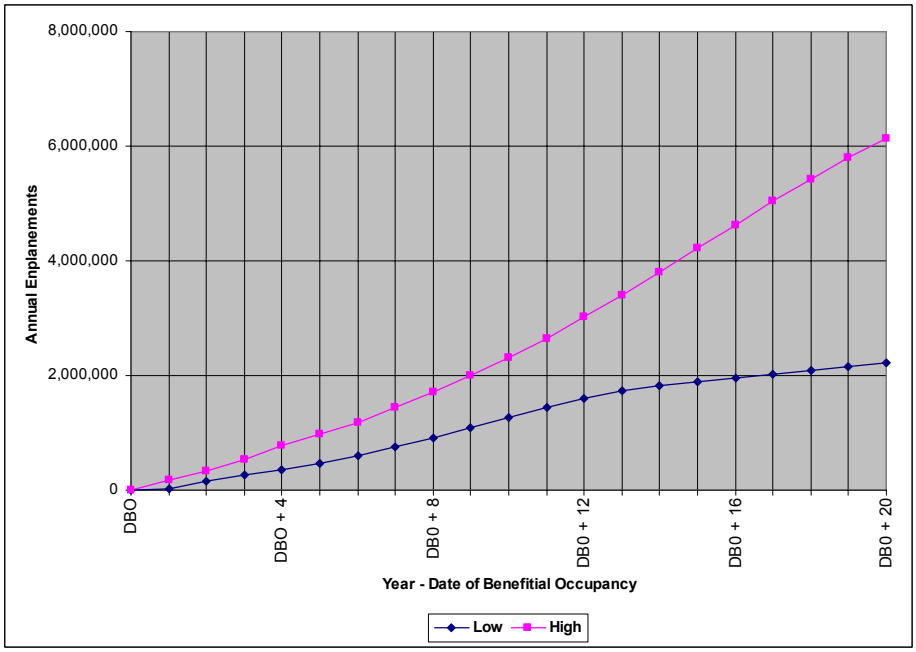
[86] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.
[87] Ibid.
[88] Ibid.
[89] Ibid.
[90] Ibid.

service provided by LCC's and mainline carriers.[91] BWI experienced an average passenger growth rate between 1992 and 2002 of 9.8 percent per year, while OAK experienced an average annual increase of 7.0 percent[92] between 1990 and 2002, still significantly above national averages.

Based on these examples, for the high long-range projection, IDOT is using a ramp down from the growth rate between DBO+4 and DBO+5, which is 24.8 percent (see Table 1-15). From DBO+6 to DBO+9, the long-range projections assume a gradual drop in the growth rate of 2 percentage points annually until reaching 14.8 percent in DBO+9, then the projections assume a decrease of 1 percent per year, resulting in an annual growth rate of 5.8 percent in DBO+20. The average annual growth for the 15-year period would be 13.1 percent, with a decreasing trend over time. Using that projected growth rate, domestic enplaned passenger activity at SSA in DBO+20 could reach 6.14 million enplanements, assuming the airport opens in 2010. Exhibit 1-6 shows the low and high long-range projections for domestic air passenger aviation activity for SSA. IDOT expects the base long-range domestic passenger activity at SSA to fall somewhere in between the low and high points shown on Exhibit 1-6.

The enplaned passengers at DBO+20 have been converted into aircraft operations assuming average aircraft seats per departure and load factors for that point in time. IDOT assumes that the airlines at SSA will still mainly be using narrowbody aircraft and regional jets with a few widebody airplanes on long-range high-density routes. Based on the potential airline schedule developed for the IAP low, base and high forecast scenarios, shown in Tables 1-12 through 1-14, the aircraft seats per departure and load factors at DBO+5 are shown in Table 1-18.

Exhibit 1-6
Domestic Enplanements at SSA
Low and High Long-Range Projections



Source: TAMS, an Earth Tech Company, 2004.

[91] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.
[92] Ibid.

Table 1-18 Aircraft Seats per Departure and Load Factor at DBO+5		
Forecast Scenario	**Average Seats per Departure**	**Load Factor**
Low Case	128.4	76.9%
Base Case	116.6	75.9%
High Case	109.9	75.9%

Source: TAMS, an Earth Tech Company, 2004.

As shown in Table 1-18, the average numbers of seats per aircraft departure at DBO+5 for the low case scenario is larger than for the base and high case domestic forecast scenarios. This is because the low case forecast only includes service to the largest markets within the IAP primary service area, and larger aircraft are expected to serve those markets; therefore, the average number of seats per aircraft departure is higher. In any case, IDOT assumes that the average number of aircraft seats per departure for the long-range projections will gradually increase to 130 seats per departure by DBO+20.

IDOT recognizes that the assumption concerning average number of seats per aircraft departure for DBO+20 is provisional since major U.S. airlines have not ordered any new aircraft in the last few years.[93] However, as mentioned in Appendix 2, the FAA forecasts that the overall passenger aircraft size is going to increase in the future.

The estimated load factors for DBO+5 for the three different IAP forecast scenarios (76-77 percent) are higher than the national average; thus, IDOT assumes that the passenger load factor will level off around 70 percent by DBO+20. As an example, O'Hare and Midway International Airports have had load factors around 65-68 percent in the last few years (see Appendix 2). Using USDOT T-100 data[94], the study assumes that passenger flights will have an average of 4 percent in-transit passengers for domestic activity throughout the planning period. This will have an impact on the number of aircraft operations.

Based on the above assumptions, Table 1-19 presents the estimated number of domestic commercial passenger aircraft operations for DBO+10 and DBO+20 for the low and high long-range projections.

Table 1-19 Domestic Passenger Aircraft Operations at SSA Long-Range Projections									
	DBO + 5			**DBO + 10**			**DBO + 20**		
	Load Factor	**Aircraft Size**	**Aircraft Operations**	**Load Factor**	**Aircraft Size**	**Aircraft Operations**	**Load Factor**	**Aircraft Size**	**Aircraft Operations**
Low Case	77%	128.4	9,800	74%	129.0	27,600	70%	130.0	50,900
High Case	76%	109.9	23,500	73%	117.0	56,200	70%	130.0	140,300

Source: TAMS, an Earth Tech Company, 2004.

International Air Passenger Aviation Activity

Similar to the long-range projections for domestic air passenger activity at SSA, IDOT developed a low and high long-range projection for international air passenger activity to establish the potential range of international activity that

[93] jp Airlines - Fleets International, Edition 2003/04 bu Ulrich Klee, Bucher & Co., Publikationen, Zurich, Switzerland, April 2003.
[94] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.

could occur at SSA in the future. The low long-range projection assumes that SSA will have no scheduled international air passenger activity. However, some seasonal charter flights could be expected, particularly during the winter months, to vacation destinations in the Caribbean and Mexico.

Under the high long-range projection, IDOT foresees potential for limited international passenger activity after DBO+5. Using the IAP high case forecast as a starting point, IDOT assumes that initial scheduled daily flights to Canadian business destinations (i.e., Toronto and Montreal) using large regional jets (90 seats) could begin in DBO+6. A couple of years later SSA could start providing weekly service to various Caribbean and Mexican destinations with narrowbody aircraft (see Table 1-20). Scheduled long-range flights (i.e., Europe or Asia) could take place if airport activity significantly increases in the future.

IDOT believes that the potential level of international passenger activity is closely tied to the domestic enplanements. In other words, the greater the domestic demand, the greater the potential for international traffic at SSA. As already stated in this report, IDOT anticipates that low-cost carriers (LCC) will probably have a very strong presence at IAP and beyond. ATA, a LCC, is already providing service to Mexican and Caribbean Destinations from Midway Airport[95], and JetBlue has recently submitted a request to fly to the Dominican Republic[96] starting in the summer of 2004. LCC's in other parts of the World already offer international destinations (i.e., Ryanair[97] and easyJet[98] in Europe and AirAsia in Asia[99]). Virgin Atlantic is trying to establish a low-cost carrier airline in the United States by 2005[100], as they have already done in Australia with its successful subsidiary Virgin Blue[101]. Most of these international destinations will probably be short- and medium-haul destinations, which is what is expected to predominate at SSA.

The high long-range projections assume scheduled international operations will only be provided to Canadian destinations in DBO+6 and DBO+7. To make the routes attractive to business travelers, IDOT assumes that airlines will operate at least two flights per day to each destination. As previously stated, IDOT assumes that the airlines will use regional jets on Canadian routes since they are expected to primarily be short-haul destinations (i.e., eastern Canada).

[95] ATA Airlines, http://www.ata.com, 2004.
[96] JetBlue Airways, http://www.jetblue.com/learnmore/pressDetail.asp?newsId=236, 2004.
[97] Ryanair.com Ltd, http://www.ryanair.com/, 2004.
[98] easyJet airline company ltd, http://www.easyjet.com/en/where/, 2004.
[99] The Economist Magazine, http://www.economist.com/printedition/displayStory.cfm?Story_ID=2502539, 2004.
[100] New York Times, http://www.nytimes.com/2004/03/13/business/13virgin.html, 2004.
[101] New York Times, http://www.nytimes.com/2004/03/18/business/worldbusiness/18ozair.html, 2004.

Table 1-20
Potential International Passenger Schedule
Long-Range Projections, DBO+6 to DBO+10

International Destinations	Year	Number of departures per week	Aircraft size	Load Factor	Passengers per week	Annual Enplaned Passengers
Canadian destinations	DBO+6	13	90	65%	761	39,500
	DBO+7	26	90	65%	1,521	79,000
	DBO+8	26	90	70%	1,638	85,000
	DBO+9	26	90	75%	1,755	91,000
	DBO+10	39	90	75%	2,663	137,000
Caribbean and Mexican Destinations	DBO+8	3	150	70%	315	16,000
	DBO+9	4	150	75%	450	23,000
	DBO+10	5	150	75%	563	29,000
Sum of the international markets	DBO+6	13	90	65%	761	39,500
	DBO+7	26	90	65%	1,521	79,000
	DBO+8	29	96.2	70%	1,953	101,000
	DBO+9	30	98	75%	2,205	114,000
	DBO+10	44	96.8	75%	3,195	166,000

Source: TAMS, an Earth Tech Company, 2004.

To estimate international activity after DBO+10, historic growth rates at various U.S. airports with international traffic were reviewed to estimate the potential growth at SSA. Airport Council International (ACI) statistics[102] and various airport websites[103] were used to gather the appropriate international passenger traffic data.

Several airports where international activity has increased over the last 12-14 years were examined to assess growth rates in international enplanements. For instance, Continental Airlines has significantly increased the number of international flights at George Bush Intercontinental (Houston) and Newark Liberty International Airports in the last few years. The same is true of American Airlines at Dallas-Ft. Worth and Delta Airlines at Atlanta–Hartsfield International Airports. The above-mentioned airlines have set up international flights from these airports since they serve as major domestic hubs for them. Table 1-21 presents the average growth rates for several U.S. airports. International air passenger activity for the years 2001 and 2002 were not included since international activity was significantly affected by the terrorist attacks of September 11.[104]

Most of the airports reviewed experienced average annual growth of more than 12 percent per year; therefore, the long-range projections use an average increase of 12 percent per year from DBO+10 to DBO+20. IDOT assumes a gradual decline in the rate of growth during the ten-year period. Based on the assumption that the international enplanement activity projected in DBO+10 is expected to be 166,000, the estimate for DBO+20 would be approximately 540,000 enplanements.

[102] Worldwide Airport Traffic Report, Annual Reports, Airports Council International, Geneva, Switzerland.
[103] Airports Council International, http://www.aci.aero/, 2004.
[104] Ibid.

Table 1-21
Historic Average Annual Growth Rates
for International Passenger Activity
Selected U.S. Airports

Airport	Time Period	Average Annual Growth Rates
Atlanta-Hartsfield International	1992-2000	12.8%
Dallas-Ft. Worth International	1992-2000	14.2%
Denver International	1992-2000	19.7%
George Bush Intercontinental	1992-2000	12.2%
Newark Liberty International	1989-2000	15.7%
SEA-TAC International	1992-2000	6.3%
O'Hare International	1990-2000	8.1%
Washington - Dulles International	1992-2000	9.3%

Sources: Annual World Airport Traffic Report, Airports Council International, 2004; http://www.atlanta-airport.com/; http://www.dfwairport.com/; http://www.flydenver.com/; http://www.houstonairportsystem.org/; http://www.panynj.gov/; http://www.portseattle.org/seatac/; http://www.ohare.com/; http://www.mwaa.com.

Table 1-22
International Passenger Aircraft Operations at SSA
Long-Range Projections

	DBO+6			DBO+10			DBO+20		
	Load Factor	Aircraft Size	Aircraft Operations	Load Factor	Aircraft Size	Aircraft Operations	Load Factor	Aircraft Size	Aircraft Operations
High	65%	90	1,350	75%	96.8	4,500	75%	150.0	9,800

Source: TAMS, an Earth Tech Company, 2004.

Table 1-22 presents the expected number of long-range international aircraft operations at SSA. Based on the tentative international passenger flight schedule from DBO+6 to DB0+10 shown in Table 1-20, the average number of seats per aircraft departure would be 90 for the first year of international activity increasing to 96.8 seats in DBO+10. IDOT foresees that the average number of seats per international departure will increase to approximately 150 at DBO+20 since potential service could include a wide range of destinations, from short- to long-range (i.e., transoceanic) routes. Therefore, the aircraft fleet mix for international operations will probably consist of regional jets, narrowbody and widebody aircraft. However, the most dominant markets will be short- and medium-haul flights.

Historically, average load factors for international flights are normally higher than domestic[105]; thus, IDOT assumes that the average load factor at DBO+20 for international flights at SSA will be 75 percent.

[105] FAA, http://www.api.faa.gov/foreca02/content_5.htm, 2003.

Long-Range Projections of Air Passenger Aviation Activity Summary

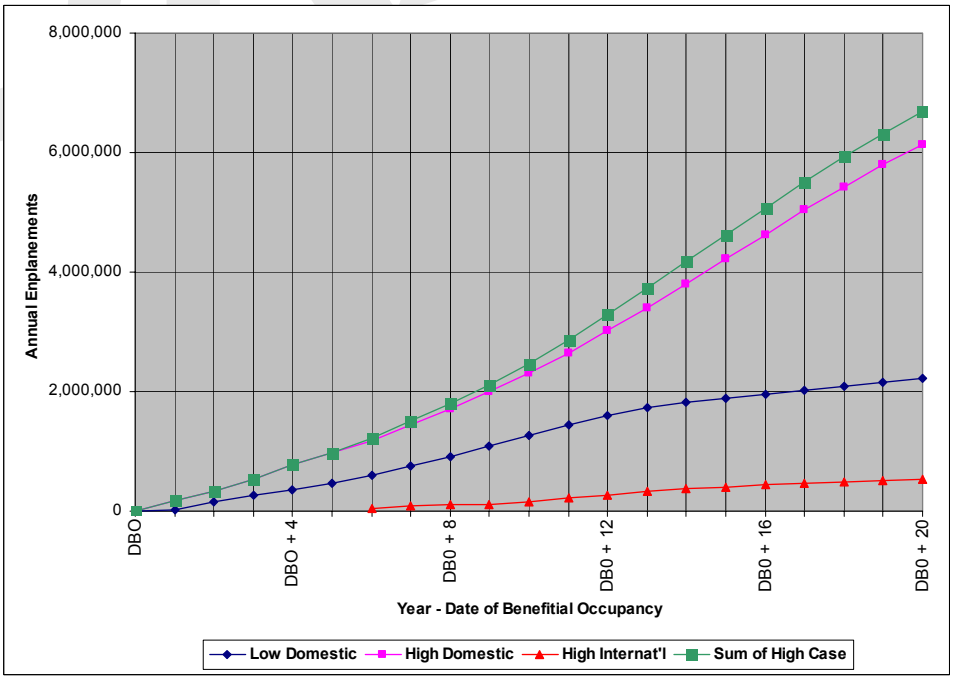
Table 1-23 and Exhibit 1-7 summarize the long-range commercial passenger projections at SSA, including domestic and international activity.

Table 1-23
Summary of Air Passenger Aviation Activity at SSA
Long-Range Projections

Range	Air Passenger Activity	DBO+5		DBO+10		DBO+20	
		Enplaned Passengers	Aircraft Operations	Enplaned Passengers	Aircraft Operations	Enplaned Passengers	Aircraft Operations
Low	Domestic	471,000	9,800	1,265,000	27,600	2,226,000	56,200
	International	0	0	0	0	0	0
	Total	471,000	9,800	1,265,000	27,600	2,226,000	56,200
High	Domestic	968,000	23,500	2,308,000	50,900	6,139,000	140,300
	International	0	0	166,000	4,500	540,000	9,800
	Total	968,000	23,500	2,474,000	55,400	6,679,000	150,100

Source: TAMS, an Earth Tech Company, 2004.

Exhibit 1-7
Summary of Air Passenger Aviation Activity at SSA



Source: TAMS, an Earth Tech Company, 2004.

Chapter 2 – Air Cargo Forecast

Section 1 – Overview of Air Cargo Forecast Methodology

The purpose of this chapter is to analyze the existing air cargo market, identify current conditions/trends and develop the expected air cargo forecasts for the Inaugural Airport Program (IAP) at the South Suburban Airport (SSA) in eastern Will County. The IAP is a proposal by the Illinois Department of Transportation (IDOT) to plan, design, construct and operate a new airport at a site in Will County, Illinois.

As mentioned in Chapter 1, forecasts intrinsically involve some uncertainty. Economic cycles, worldwide events and technological advancements influence the operations of the aviation industry. For instance, the terrorist attacks of September 11, 2001 and the economic slowdown at the turn of the century have impacted the air cargo industry in the short term. In its latest Aerospace Forecast report[106], the FAA reported the overall Revenue Ton Miles[107] (RTM) for U.S. commercial air carriers increased 18.5 percent in 2003 from 2002, while for all cargo airlines the activity increased 25.5 percent.

There also is a degree of uncertainty about the future development of the air cargo industry, particularly considering the potential implementation of new security guidelines that could affect some air cargo operations. It is important to note that the world economy was already experiencing a recession even before the September 11 attacks. The original downturn was due in part to the slowdown in the technology sector coupled with a general softening of the economy.[108] The attacks worsened the situation, particularly in the aviation industry, which resulted in less demand and a significant reduction of service in the aftermath of the tragic events. However, experts in the aviation industry, including the FAA, are predicting that the aviation industry will recover from the effects of the recession, the impacts of new security requirements and other current geopolitical events.

Changes in the Industry

Some changes in the air cargo industry started before the events of 2001. For instance, the percentage of belly cargo (cargo carried in the belly of passenger aircraft) has been reduced, due to the increased use of regional aircraft in some markets, effectively limiting belly capacity.[109] However, regional jets are mainly used for short-range markets (generally less than 1,000 miles) where cargo operators tend to depend heavily on trucks or what is referred to in the industry as Road Feeder Service (RFS).[110] In 2003, all cargo airlines carried 68 percent of RTMs, which is predicted to increase slightly to 71 percent by 2015.[111]

Other changes have arisen as a consequence of the terrorist attacks.[112] For instance, the Transportation Security Administration (TSA) is striving to develop a new set of guidelines that will probably affect the cargo industry, but their short- and long-term impacts are still unknown since the regulations are still being drafted. After the September 11, 2001 attacks, the Federal Aviation Administration (FAA) temporarily prohibited the transport of all U.S. mail as belly cargo. Subsequently, the restriction was modified to all mail packages over 16 ounces.
Since then, the United States Postal Service (USPS) signed a contract with Federal Express (FedEx) for FedEx to transport all USPS airmail.[113] Some of the legislation

[106] FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, March 2004.
[107] Revenue Ton Mile is one ton of revenue traffic transported one mile. USDOT, Bureau of Transportation Statistics, 2004.
[108] Boeing Commercial Airplanes, Boeing World Air Cargo Forecast 2002/2003, September 2002.
[109] FAA, FAA Aerospace Forecasts: Fiscal Years 2003-2014, March 2003.
[110] Boeing Commercial Airplanes, Boeing World Air Cargo Forecasts 2002/2003, September 2002.
[111] FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, March 2004.
[112] Ibid.
[113] Federal Express, http://www.fedex.com/us/about/news/pressreleases/archives/pressrelease210102422.html, January 2001.

being considered in 2003-2004 could ban all types of cargo from passenger aircraft. However, because belly cargo generates significant income, the airlines will most likely resist the loss of this portion of their business, particularly considering the financial condition of the U.S. airline industry during this period. In any case, a new security rule, "the known shipper rule", has already been implemented.[114] Under this rule passenger airlines can no longer accept cargo packages for transport in the belly of passenger aircraft from unknown customers. Potential shippers must clear security guidelines in advance of transporting cargo on passenger airlines. Otherwise all-cargo aircraft must be used.

Current Industry Status (2002-2003)

While both passenger and cargo aviation activities have sustained steady growth over the past decade, there has not been a coordinated effort to expand the national aviation infrastructure to keep pace with the growth in demand. This has contributed to increasing airport delays at capacity-constrained airports over the last few years, particularly in high-density markets. This growing congestion at the nation's busiest airports has had a profound effect on air cargo operations. Some of the most relevant characteristics and developments in the air cargo industry are the following:

- Medium and small hub passenger airports (i.e., Louisville; Memphis; Indianapolis; Wilmington, Ohio) have become the predominant hubs for cargo/freight operations. Most of the large U.S. hubs have been origin/ destination (O/D) airports for cargo purposes, except for locations such as Los Angeles, Anchorage, New York and Miami, which are major ports of entry for Asian-Pacific, European and Latin American markets, respectively.

- In the last few years the percentage of belly traffic has dropped its share of total cargo traffic with a consequent increase in all-cargo activity. This has resulted in increased aircraft operations to transport the same amount of tonnage. The latest FAA forecasts expect stabilization in the split between belly and all cargo activities.[115] Boeing forecasts also anticipate that belly cargo will remain an important segment of the business.[116]

- The overnight carriers, a main sector of the U.S. cargo market, look for airports with ample runway and apron capacity and competitive rates and charges.

- With the recent consolidation of major cargo hubs and operators, along with the development of regional hubs (i.e., Indianapolis, Hartford and Rockford), the total share of major hubs in the overall cargo market has been reduced.

In the last few years, the air cargo sector has experienced more rapid growth than the air passenger market, with international activity growing at a faster pace than domestic activity.[117] FAA forecasts[118] indicate that all-cargo operations will become the predominant way to transport goods by air, but belly cargo will still be an important part of the business over the next several years.

In some of the international markets (i.e., European destinations), airfreight is predominantly transported via belly cargo. Boeing foresees that the number of cargo aircraft will increase 75 percent from 1,775 in 2001 to 3,100 in 2021.[119] Many of the older aircraft in the fleet will probably be replaced with newer aircraft mainly for economic and environmental reasons, but a few of the additions will also be brand

[114] Transportation Security Administration, http://www.tsa.gov/public/display?content=0900051980069bfe, 2003.
[115] FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, March 2004.
[116] Boeing Commercial Airplanes, Boeing World Air Cargo Forecasts 2002/2003, September 2002.
[117] FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, March 2004.
[118] Ibid.
[119] Boeing Commercial Airplanes, Boeing World Air Cargo Forecasts 2002/2003, September 2002.

new airplanes. For instance, Federal Express has already placed an order for 10 Airbus 380s to be delivered between 2008 and 2011.[120]

Air Cargo Operational Characteristics

When identifying places to establish operations, cargo operators, shippers and ground handlers look for airports with ample capacity. This means adequate airside (runway and apron systems) and landside (cargo terminal and ground access) capacity. The best examples are the main domestic hubs for FedEx (Memphis), UPS (Louisville) and DHL (Cincinnati, OH). Links to the nation's major highways and surface transportation are a major industry priority, particularly since air cargo has become an inter-modal industry.[121] The express carriers, which have normally targeted medium-size airports for many years, have also expanded their area of businesses to freight activity.

The potential security requirements currently being considered by TSA for air cargo activity[122] could increase the space required for operation, which could complicate the operations at airports with capacity and development constraints. However, the new guidelines are still under discussion, and it is too early to draw any conclusions on the impact these regulations may have on the air cargo industry. The availability of land for future expansion could be a major advantage for airports attempting to attract cargo operations, depending upon the types of guidelines that are finally implemented.

Historically, the Chicago region has been a major international cargo gateway and national transfer point for surface and air transportation.[123] The Chicago region has seen its share of the national air cargo market drop in the last few years, even though the Greater Rockford Airport has experienced significant growth in air cargo activity (discussed in Section 2).

Other airports in the U.S., such as Rickenbacker, Columbus, Ohio; Fort Worth-Alliance, Texas; Toledo Express, Ohio; Southern California Logistics Airport (SCLA) and Mather (Sacramento), California, are carving out new identities as industrial/cargo airports. These airports have been successful in attracting aviation-related industries and logistics/cargo activity. Conversely, Louisville International Airport, with the major expansion of United Parcel Service (UPS) facilities, has attracted industries that require quick turn-around times (just-in-time service).

Methodology

The following four sections outline the air cargo potential that could arise during the Inaugural Airport Program at SSA. In Section 2, national cargo forecasts and historical air cargo activity in the Chicago region are presented. Accepted air cargo forecasts for the regional airports are also discussed, if projections are publicly available. Section 3 of this chapter describes the type of air cargo that is shipped to and from Chicago, both domestic and internationally.

The fourth section of this chapter summarizes information on the U.S. and Chicago region economy and how air cargo is influenced by economic factors. Section 5 discusses historic and forecast air cargo for the U.S., and the expected Chicago region share of the U.S. air cargo market. The chapter concludes with Section 6, a discussion of the expected air cargo role of the IAP and Section 7, a presentation of a range of forecasts for air cargo activity, based on the preceding discussions.

[120] jp Airlines – Fleets International, Edition 2003/04 bu Ulrich Klee, Bucher & Co., Publikationen, Zurich, Switzerland, April 2003.
[121] Boeing Commercial Airplanes, Boeing World Air Cargo Forecasts 2002/2003, September 2002.
[122] Transportation Security Administration, http://www.tsa.gov/public/display?content=0900051980069bfe, 2003.
[123] Johnson, Elmer. Chicago Metropolis 2020, Preparing Metropolitan Chicago for the 21st Century, 1999.

Section 2 –Existing Regional Air Cargo Market

This section discusses the existing regional air cargo market in the Chicago region. Air cargo forecasts[124] for O'Hare International Airport, Midway International Airport, Greater Rockford Airport and Gary/Chicago International Airport are reviewed and presented. Whenever available, the most recent air cargo forecasts developed for these airports have been utilized. Otherwise, accepted industry growth rates, as outlined below, were used as the basis for forecasting air cargo activity.

Boeing Forecasts

Boeing published in 2002 its *World Air Cargo Forecast 2002/2003*[125] that discusses future development in the air cargo industry over the next twenty years. Their analyses divide development into several markets. The most relevant markets for the Chicago region are the following:

- North America (Domestic and Trans-border)
- Latin America and North America
- Europe and North America
- Asia and North America

According to the Boeing report, the world air cargo market will grow at an average of 6.4 percent over the next twenty years with the Intra-Asian and Chinese markets leading the industry. Airfreight is expected to grow at an annual rate of 6.5 percent through 2021, while airmail is anticipated to increase at an annual rate of 3.0 percent. The Revenue Ton Kilometers[126] (RTK) for the relevant markets are presented below:

- North America: The U.S. domestic market accounts for 94.3 percent of the total North American market. Most of the recent growth has occurred in the express sector, and it is expected to continue into the foreseeable future. Air cargo trade is expected to show steady growth, averaging an annual 4.5 percent growth during the first 10 years and 4.3 percent throughout the twenty-year period (2001 to 2021). The trans-border Canadian-U.S. market is anticipated to increase 7.1 percent per year.
- Latin America and North America: This market is predicted to expand 6.5 percent per year for the next twenty years. Northbound traffic is expected to grow faster (6.6 percent) than southbound flows (6.3 percent).
- Europe and North America: The overall market is anticipated to increase 6.5 percent annually for the next twenty years, with 6.3 percent for eastbound traffic and 6.7 percent for westbound activity.
- Asia and North America: Eastbound activity is predicted to grow 7.4 percent per year while westbound activity is predicted to have an annual increase of 7.6 percent.

The Boeing report does not discuss the split between belly cargo and all cargo aircraft activity. However, Boeing experts responsible for preparing the air cargo forecasts that were interviewed for this report stated that belly cargo would still be a relevant portion of the industry, accounting for 45-50 percent of total activity.[127]

FAA Forecasts

According to the latest FAA projections, *FAA Aerospace Forecasts: Fiscal Years 2004-2015*, total cargo flown will increase about 70 percent, from 32.9 billion Revenue Ton Miles (RTM's) in Fiscal Year (FY) 2003 to 56.0 billion RTM's in FY

[124] O'Hare Modernization Program, O'Hare Master Plan Report, http://www.o'hare.com/MasterPlan, 2004.
[125] Boeing Commercial Airplanes, Boeing World Air Cargo Forecasts 2002/2003, September 2002.
[126] Revenue Ton Kilometer is one ton of revenue traffic transported one kilometer. USDOT, Bureau of Transportation Statistics, 2004
[127] Pers comm., July 2003.

2015. Domestic cargo (in RTM's) is expected to increase 4.2 percent in FY 2004, 3.9 percent in FY 2005 and to an average 3.4 percent per year from FY 2005 to FY 2015. All-cargo carriers are expected to enhance their RTM share of the domestic market – from 74.8 percent in FY 2002 to 78.7 percent in FY 2015. International freight/express RTM's are expected to grow in the long range at a faster rate – 3.1 percent in FY 2004, 6.8 percent in FY 2005 and 5.4 percent per year for the remaining ten years. The all cargo RTM share of international RTM traffic is expected to increase from 62.6 percent in FY 2002 to 66.0 percent in FY 2014.

The *FAA Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020, 2025 and 2030* project total RTMs to increase from 51.2 billion in FY 2015 to 92.6 billion in FY 2030, an increase of approximately 81 percent, which represents annual increments of 4.0 percent per year.[128] The Long-Range forecasts do not separate domestic from international activity. The most recent FAA forecasts do not separate freight/express from mail activities, but they do provide separate cargo projections for belly cargo and all cargo aircraft. The percentage of RTM mail cargo has been relatively consistent, totaling about 10 percent of total cargo activity.[129] However, the 2003 FAA forecasts[130] project its share to drop to around 6 percent in FY 2013. The previous estimates, which are generally accepted in the air cargo industry for planning purposes, will be used to project future activity in the Chicago region.

Chicago Region Forecasts

Within the Chicago Consolidated Metropolitan Statistical Area (CMSA), three airports, O'Hare International Airport, Midway International Airport and Gary/Chicago International Airport, currently have or plan to accommodate air cargo operations. In addition, since Greater Rockford Airport, located adjacent to the Chicago CMSA, handles a significant amount of air cargo, it has been included in this analysis of air cargo activity. Figure 1-1 in Chapter 1 shows the Chicago CMSA and the location of these airports. Following are discussions of the historic and forecast activity at these airports, which defines the existing regional air cargo market. To be consistent, the cargo forecasts for each airport will be converted to total cargo, the sum of inbound and outbound activity. All of the historic data presented herein represents total cargo.

O'Hare International Airport

In addition to serving a large number of passenger enplanements, (as discussed in Chapter 1), O'Hare International Airport (ORD) also handles a large amount of freight/cargo and mail. In fact, in 2002, Airports Council International (ACI) ranked it as the 7th busiest U.S. airport (16th when considering all airports worldwide) in terms of total air cargo tonnage.[131] Based on City of Chicago statistics, since 1996 ORD has handled between 1.4 and 1.7 million short tons[132] of mail and freight, annually. Cargo is shipped to and arrives from multiple domestic and international non-stop destinations. Table 2-1 shows the enplaned (cargo loaded onto planes in Chicago) and deplaned (cargo loaded off of planes in Chicago) cargo shipments for ORD since 1985.

The most recent O'Hare aviation forecasts prepared for the O'Hare Modernization Program (OMP) predict that the airport's projected growth will be lower than the FAA and Boeing forecasts for the same time period (see Table 2-2). The OMP forecasts only considered enplaned cargo (cargo loaded and transported via airplane from the airport). The study mentioned that they planned to forecast the total cargo activity (inbound plus outbound) at a later date in the ORD master plan process. In the meantime, this chapter assumes that deplaned cargo activity at ORD will have a

[128] FAA, FAA Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020, 2025 and 2030, June 2003.
[129] FAA, FAA Aerospace Forecasts: Fiscal Years 2004-2015, March 2004.
[130] FAA, FAA Aerospace Forecasts: Fiscal Years 2003-2014, March 2003.
[131] Airports Council International, Worldwide Airport Traffic Report, Geneva, Switzerland, Calendar Year 2002.
[132] Short ton = 2,000 pounds.

similar growth rate as enplaned cargo. However, it is important to keep in mind inbound and outbound cargo activities have different characteristics, and their future development could differ significantly.

Table 2-1
O'Hare International Airport
Freight and Mail Tonnage – Short Tons

Year	Freight/ Express Tonnage			Mail Tonnage			Total Cargo Tonnage		
	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total
1985	369,038	210,074	579,112	187,527	14,115	201,642	556,565	224,189	780,754
1986	421,593	228,897	650,490	229,902	15,801	245,703	651,495	244,698	896,193
1987	423,922	286,697	710,619	243,420	16,315	259,735	667,342	303,012	970,354
1988	431,349	315,245	746,594	258,405	17,350	275,755	689,754	332,595	1,022,349
1989	464,022	333,746	797,768	245,293	13,647	258,940	709,315	347,393	1,056,708
1990	489,429	336,102	825,531	248,921	13,391	262,312	738,350	349,493	1,087,843
1991	477,548	364,587	842,135	228,770	17,608	246,378	706,318	382,195	1,088,513
1992	577,036	375,158	952,194	262,338	14,922	277,260	839,374	390,080	1,229,454
1993	561,030	409,292	970,322	279,688	14,070	293,758	840,718	423,362	1,264,080
1994	610,268	504,815	1,115,083	253,241	16,289	269,530	863,509	521,104	1,384,613
1995	572,818	525,455	1,098,273	247,154	16,886	264,040	819,972	542,341	1,362,313
1996	576,402	546,201	1,122,603	248,554	17,883	266,437	824,956	564,084	1,389,040
1997	636,417	648,391	1,284,808	246,269	20,528	266,797	882,686	668,919	1,551,605
1998	655,220	670,423	1,325,643	240,150	21,240	261,390	895,370	691,663	1,587,033
1999	667,340	774,795	1,442,135	223,220	22,563	245,783	890,560	797,358	1,687,918
2000	621,850	800,840	1,422,690	197,638	21,692	219,330	819,488	822,532	1,642,020
2001	483,680	775,210	1,258,890	136,283	25,340	161,623	619,963	800,550	1,420,513
2002	526,135	805,773	1,331,908	75,701	28,776	104,477	601,836	834,549	1,436,385

Source: City of Chicago, O'Hare Modernization Program – Concept Development/ Refinement, February 2003.
ACI Worldwide Airport Traffic Statistics.

The ORD aviation forecasts shown in Table 2-2 have made a significant adjustment to account for the aftermath of the events of September 11, 2001, but the growth rates are still lower than those expected for the U.S. as a whole. However, air cargo activity at ORD is still expected to increase nearly 57 percent over the twenty-year period, from 2002 to 2022.

Based on OMP documents[133], most of the cargo transported from ORD has been carried in the belly of passenger aircraft, although the percentage of all-cargo aircraft operations has increased considerably, from 22.7 percent in 1990 to 47.4 percent in 2001. According to the latest O'Hare outbound cargo statistics[134], belly cargo in the domestic market has decreased from 72.4 percent in 1990 to 44.6 percent in 2001. International all-cargo aircraft operations increased from 11.6 percent in 1990 to 39.4 percent in 2001. Table 2-2 indicates that belly cargo will still account for the majority of cargo at ORD, capturing 65.5 percent of the total ORD market in 2022.

[133] City of Chicago, O'Hare Modernization Program – Draft Concept Development Report, February 2003.
[134] O'Hare Management Records, 2001 and Ricondo & Associates, Inc.

Table 2-2
O'Hare International Airport
Enplaned Cargo Forecasts – Short Tons

Year	Belly Cargo Enplaned Tonnage			All Cargo Enplaned Tonnage			Total Enplaned Cargo Tonnage		
	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total
Historic Activity									
2000	238,338	229,939	468,277	193,327	107,393	304,720	435,665	337,332	772,997
2001	145,585	196,372	341,957	180,596	127,701	308,297	326,181	324,073	650,254
Forecast Activity									
2002	228,823	289,521	518,344	219,528	99,108	318,636	448,351	388,629	836,980
2003	230,246	305,368	535,614	224,163	101,200	325,363	454,409	406,568	860,977
2004	231,527	323,035	554,562	228,798	103,293	332,091	460,325	426,328	886,653
2005	232,838	340,328	573,166	233,432	105,385	338,817	466,270	445,713	911,983
2006	234,124	357,939	592,063	238,067	107,477	345,544	472,191	465,416	937,607
2007	235,386	375,860	611,246	242,702	109,570	352,272	478,088	485,430	963,518
2008	236,613	394,226	630,839	247,336	111,662	358,998	483,949	505,888	989,837
2009	237,870	412,209	650,079	251,971	113,754	365,725	489,841	525,963	1,015,804
2010	239,106	430,460	669,566	256,606	115,847	372,453	495,712	546,307	1,042,019
2011	240,322	448,970	689,292	261,241	117,939	379,180	501,563	566,909	1,068,472
2012	241,519	467,733	709,252	265,875	120,031	385,906	507,394	587,764	1,095,158
2013	243,141	481,013	724,154	270,510	122,124	392,634	513,651	603,137	1,116,788
2014	244,759	494,353	739,112	275,145	124,216	399,361	519,904	618,569	1,138,473
2015	246,279	507,765	754,044	279,779	126,308	406,087	526,058	634,073	1,160,131
2016	247,593	521,265	768,858	284,414	128,401	412,815	532,007	649,666	1,181,673
2017	249,128	534,784	783,912	289,049	130,493	419,542	538,177	665,277	1,203,454
2018	250,659	548,355	799,014	293,683	132,586	426,269	544,342	680,941	1,225,283
2019	252,186	561,976	814,162	298,318	134,678	432,996	550,504	696,654	1,247,158
2020	253,710	575,645	829,355	302,953	136,770	439,723	556,663	712,415	1,269,078
2021	255,230	589,359	844,589	307,587	138,863	446,450	562,817	728,222	1,291,039
2022	256,746	603,118	859,864	312,222	140,955	453,177	568,968	744,073	1,313,041
Projected Annual Growth Rates									
2001-2022	102.74%	105.49%	104.49%	102.64%	100.47%	101.85%	102.68%	104.04%	103.40%
2002-2022	100.58%	103.74%	102.56%	101.78%	101.78%	101.78%	101.20%	103.30%	102.28%
2000-2014	100.19%	105.62%	103.31%	102.40%	101.04%	101.95%	101.27%	104.43%	102.80%
2014-2022	100.60%	102.52%	101.91%	101.59%	101.59%	101.59%	101.13%	102.34%	101.80%

Source: City of Chicago, O'Hare Modernization Program – Draft Concept Development Report, February 2003.
Note: Inbound cargo activity is assumed to have same growth rates as enplaned cargo.

Midway International Airport

Midway International Airport (MDW), also owned and operated by the City of Chicago, has experienced significant passenger growth in the last 10-15 years. In the last few years, cargo activity at Midway has been entirely tied to passenger activity since nearly all cargo at Midway is transported via the belly of passenger aircraft. Since no recent cargo forecast is available for Midway, this report assumes that future growth rates at Midway will follow national trends. MDW is primarily a domestic airport with limited international activity.

Table 2-3 depicts historic and assumed future annual cargo tons at Midway International Airport. No publicly available cargo forecasts currently exist, thus the projected activity in Table 2-3 is based on applying the Boeing and FAA national rates to the historic activity. According to statistics from the City of Chicago Department of Aviation, in November 2002 the airport moved almost 56,000 tons of cargo; this unusual event skewed the cargo activity for the year. For forecast purposes, an adjustment for 2002 has been made to follow the historic trend at MDW. FAA national growth rates were applied to this adjusted total to project cargo activity at MDW.

Table 2-3
Midway International Airport
Historic and Forecast Cargo Activity – Short Tons

Year	Freight/ Express Tonnage			Mail Tonnage			Total Cargo Tonnage		
	Domestic	Int'l	Total	Domestic	Int'l	Total	Domestic	Int'l	Total
Historic Activity									
1987	14,632	0.0	14,632	1,616	0	1,616	16,248	0	16,248
1988	15,976	0.0	15,976	4,683	0	4,683	20,659	0	20,659
1989	12,250	78.0	12,328	8,210	10	8,220	20,460	88	20,548
1990	12,937	105.0	13,042	10,300	10	10,310	23,237	115	23,352
1991	14,890	0.0	14,890	8,933	0	8,933	23,823	0	23,823
1992	14,544	0.0	14,544	691	0	691	15,235	0	15,235
1993	9,398	0.0	9,398	1,614	0	1,614	11,012	0	11,012
1994	34,234	0.0	34,234	4,350	0	4,350	38,584	0	38,584
1995	23,727	0.0	23,727	4,865	0	4,865	28,592	0	28,592
1996	24,616	0.0	24,616	5,268	0	5,268	29,884	0	29,884
1997	23,339	0.0	23,339	9,285	14	9,299	32,624	14	32,638
1998	19,947	0.0	19,947	9,897	0	9,897	29,844	0	29,844
1999	14,396	0.0	14,396	7,107	0	7,107	21,503	0	21,503
2000	11,954	0.0	11,954	11,306	0	11,306	23,260	0	23,260
2001	11,221	0.0	11,221	5,942	0	5,942	17,163	0	17,163
2002	61,705	3.5	61,709	21,763	1	21,764	83,468	5	83,473
Adjusted 2002	20,000	3	20,003	6,000	1	6,001	26,000	4	26,004
Forecast Activity									
2003	21,000	3	21,003	6,119	1	6,120	27,119	4	27,123
2007	24,473	3	24,476	6,617	1	6,618	31,090	4	31,094
2008	25,427	3	25,430	6,748	1	6,749	32,175	4	32,179
2009	26,419	3	26,422	6,881	1	6,882	33,300	4	33,304
2010	27,449	3	27,452	7,017	1	7,018	34,466	4	34,470
2015	33,365	3	33,368	7,738	1	7,739	41,103	4	41,107
2020	41,183	3	41,186	8,533	1	8,534	49,716	4	47,920
2021	42,954	3	42,957	8,702	1	8,703	51,656	4	51,660
Projected Annual Growth Rates									
2002-2014	103.90%	106.00%	104.00%	101.98%	103.10%	101.98%	103.56%	-	103.56%
2014-2021	104.30%	106.50%	104.30%	101.98%	103.10%	101.98%	103.88%	-	103.88%

Source: Department of Aviation, City of Chicago, Airport Activity Statistics, 2003.
Landrum & Brown, Chicago Airport System Forecast, June 1998.
Projected Activity – TAMS/Earth Tech, 2003 using FAA national projections.

Gary/Chicago International Airport

According to the 2000 Master Plan prepared for the Gary/Chicago International Airport (GYY), total air cargo has ranged from 375 to 750 tons between 1994 and 1998.[135] In 1994, GYY was used to transport just-in-time cargo for automobile assembly lines in Chicago Heights.[136] The analysis presented in this report uses the mid-case cargo forecasts contained in the GYY forecast report. Since the forecasts were prepared prior to the September 11, 2001 terrorist attacks, some corrections may need to be made to the forecasts in the future. However, because the projected air cargo activity at GYY is relatively low, no adjustments have been made to the air cargo estimates, as presented in Table 2-4.

[135] HNTB, Gary/ Chicago Airport Master Plan Update, Aviation Activity Forecasts, Final Draft, February 2000.
[136] Ibid.

Table 2-4
Gary/Chicago International Airport
Projected Inbound and Outbound Air Freight Tonnage
Mid-Case Scenario – Short Tons

Year	All-cargo	Passenger Carrier	Total Tons
Historic Activity			
1997	500		500
Pro Forma			
1997	500	1,537	2,037
Forecast Activity			
2000	596	1,663	2,258
2005	797	2,009	2,806
2010	1,066	2,494	3,560
2020	1,910	3,403	5,312
*Projected Annual Growth Rates Based on Pro forma figures**			
1997-2020	106.00%	103.52%	104.26%

Source: HNTB, Gary/Chicago Airport Master Plan Update, Aviation Activity Forecasts, Final Draft, February 2000.
TAMS/Earth Tech calculation, 2004.

Greater Rockford Airport

The Greater Rockford Airport (RFD) is located in the southern portion of Winnebago County, Illinois, approximately 5 miles south of the Rockford Central Business District. The airport is located approximately 83 miles northwest of the Chicago Central Business District and is currently an important air cargo airport for northern Illinois and southern Wisconsin.

RFD has achieved significant growth since United Parcel Service (UPS) commenced its scheduled cargo operations there in 1993. UPS has had great success in its operation, and the airport has become one of its most important regional cargo hubs to transfer cargo to various destinations in North America. Rockford's growth in 2001 continued in spite of a general downturn in the whole cargo industry associated with the recession and the terrorist attacks. The main runway was extended to 10,000 feet in length, simultaneous with the construction of a full parallel taxiway system in 1999, to better meet aircraft requirements. The longer runway has granted UPS greater operational flexibility at RFD. Table 2-5 shows Rockford's cargo activity since UPS began operations at the airport.

Table 2-5
Greater Rockford Airport
Historic Cargo Activity – Short Tons

Year	Total Tons Freight and Mail	Share of U.S. (%)
1993	6	-
1994	48	-
1995	439	0.004
1996	1,174	0.01
1997	25,745	0.2
1998	121,533	0.8
1999	124,832	0.8
2000	133,670	0.8
2001	165,362	1.02

Source: Data Base Products, Inc., 2002, as tabulated by The al Chalabi Group, Ltd.
Bureau of Transportation Statistics, USDOT, 2003.

Rockford has been able to accommodate a portion of the Chicago region cargo demand due to its location, available capacity and ability to handle aircraft operations

24 hours a day. It is important to keep in mind that most of its cargo is connecting from various destinations in North America. Its attractiveness to UPS is evident when considering that cargo activity went from 1,174 tons to 121,533 tons in a two-year period. From 1998 to 2001, Rockford grew another 43,829 tons, a 36 percent increase.

Initial cargo projections presented below for Rockford are based on the accepted annual growth rates for the entire U.S. cargo market. This analysis assumes that the airport will predominantly remain as a domestic cargo hub. These rates could be considered low for RFD since Rockford is a market that still has potential for more growth. The anticipated annual tonnage for RFD is presented in Table 2-6.

Table 2-6
Greater Rockford Airport
Cargo Forecast – Short Tons

Year	Annual Tonnage
Historic Activity	
2001	165,362
2002	171,811
Forecast Activity	
2003	178,512
2007	208,032
2008	216,145
2009	224,575
2010	233,333
2015	283,612
2020	350,063
2021	365,116
2022	380,816
Projected Annual Growth Rates	
2002-2014	103.90%
2014-2021	104.30%

Source: TAMS/Earth Tech, 2003.
Future Activity TAMS/ Earth Tech using FAA projections.

Existing Regional Air Cargo Market Summary

Chicago is a logical and highly accessible multi-modal transfer and distribution point because of its north-central location, and its access to the U.S. interstate highway and rail systems. In addition, due to its north-central location in North America as well as its strong industrial base, the Chicago region, with its large population and employment base, is well positioned for service to and from international markets.

Air cargo operators and freight forwarders tend to transport cargo bound for destinations within a 1,000- to 1,200-mile radius on trucks rather than on aircraft.[137] Based on this statistic, Chicago has the ability to distribute cargo on trucks over a good portion of North America (to the Rocky Mountains, Gulf of Mexico, east coast and eastern Canada).

IDOT believes that South Suburban Airport's development site, in concert with an excellent surface transportation network, has a great potential to serve air cargo operators. The location of the SSA site at the southern edge of the Chicago metropolitan area provides certain advantages for potential cargo operators. The site has ample space for facility development, is located adjacent to a north-south Interstate highway, two Illinois State highways, two major railroad lines and 15 miles south of two east-west Interstate highways. In addition, two of the four largest industrial parks in terms of acreage (Center Point International Center in Elwood and

[137] Boeing Commercial Airplanes, Boeing World Air Cargo Forecast 2002/2003, September 2002.

Manheim Business Park at Matteson) in the Chicago area are located within 20 miles of the IAP.[138]

The following section discusses the types of air cargo activity that could occur during the IAP.

Section 3 – Chicago Air Cargo Characteristics

This section identifies the type and volume of air cargo that has been shipped domestically and internationally to and from the Chicago region. Table 2-7 depicts the historic domestic commodities in the Chicago region in short tons. Table 2-8 lists the top 10 imports, by commodity, for the Chicago Custom District[139], based on U.S. Census Statistics by Custom Districts. In 1995, machinery and equipment was the most imported commodity in the Chicago region, but by 2002, had fallen to third. Office and computing machinery and other communications equipment were the top two commodity imports in 2002.

Table 2-9 identifies the top 10 exports, by commodity, for the Chicago Custom District, based on U.S. Census Statistics by Custom District. Machinery and equipment commodities have consistently been the top export for the Chicago region during the 1995 – 2002 time period. Motor vehicle parts increased in exports through 2000, then decreased in 2001 and 2002, while synthetic resins have steadily increased their exports during the period. Appendix 5 lists the total metric tons for imports and exports by commodity for the Chicago Custom District in 1995 and 2000.

Table 2-7
Historic Domestic Commodities 2001-2003
Short Tons

Commodity Description	2001	2002	2003
Farm Products	14,405	16,340	21,167
Fresh Fish or Marine Products	12,308	13,114	16,512
Food or Kindred Products	17,486	19,103	24,777
Textile Mill Products	2,095	2,296	2,965
Apparel or Related Products	16,010	16,784	20,851
Lumber or Wood Products	738	793	995
Furniture or Fixtures	1,996	2,116	2,737
Pulp, Paper, or Allied Products	13,950	14,422	18,531
Printed Matter	19,925	19,961	25,416
Chemicals or Allied Products	39,871	45,096	57,686
Petroleum or Coal Products	2,195	2,360	2,886
Rubber or Miscellaneous Products	10,625	11,169	14,452
Leather or Leather Products	2,428	2,349	2,812
Clay, Concrete, Glass Or Stone	3,336	3,411	4,340
Primary Metal Products	538	568	736
Fabricated Metal Products	24,774	25,910	33,429
Machinery	132,583	130,225	169,539
Electrical Equipment	71,723	76,263	98,261
Transportation Equipment	43,815	48,289	64,598
Instruments, Photo Equipment, Optical Equipment	19,855	21,025	27,001
Miscellaneous Manufacturing	8,812	9,384	12,185
Mail, Express, Other Contract	286,490	317,159	405,418
Miscellaneous Mixed Shipments	57,388	60,207	76,495
	803,344	**858,342**	**1,103,789**

Source: U.S. Census Bureau, Statistics by Custom District.

[138] Crain's Chicago Business, Chicago's Largest Industrial Parks, July 14, 2003.
[139] The Chicago Customs District comprises 12 ports in Illinois and six in surrounding Midwestern states: Calumet Harbor, Chicago, Chicago River, Lockport, Waukegan Harbor, Peoria, Omaha (Neb.), East Chicago (Ind.), Gary (Ind.), Michigan City Harbor (Ind.), Des Moines (Iowa), Davenport (Iowa), Moline, Rock Island, Waukegan Airport, Greater Rockford Airport, Pal-Waukee User Fee Airport and Nippon Courier Hub.

Table 2-8
Chicago Custom District
Top 10 Import Commodities, 1995–2002 – Metric Tons

Commodity	1995	1996	1997	1998	1999	2000	2001	2002
Office and Computing Machinery	8,964	7,035	14,131	15,970	25,168	31,755	26,637	40,279
Other Communications Equipment	7,891	9,677	11,176	11,045	16,346	27,280	25,981	41,795
Machinery and Equipment, NEC	37,286	26,353	33,889	35,060	35,804	100,727	34,321	38,612
Wearing Apparel	11,199	13,348	18,172	21,639	36,469	38,670	26,617	35,037
Electrical Industrial Machinery	17,389	19,687	24,372	22,044	27,155	31,877	25,668	30,658
Parts of Motor Vehicles	14,886	17,510	25,410	21,639	21,632	77,867	22,351	31,775
Other Manufacturing, NEC	11,865	13,509	16,807	20,827	23,481	34,772	21,735	20,563
Metal Products	8,463	7,422	10,233	10,759	11,713	37,896	10,379	15,586
Professional Equipment	6,461	6,412	7,862	9,208	11,053	12,340	11,264	14,569
Electrical Apparatus, NEC	6,551	6,495	9,291	9,076	13,130	19,349	9,407	13,175

Source: U.S. Census Bureau, Statistics by Custom District.
NEC = Not Elsewhere Classified.

Table 2-9
Chicago Custom District
Top 10 Export Commodities, 1995–2002 – Metric Tons

Commodity	1995	1996	1997	1998	1999	2000	2001	2002
Machinery and Equipment, NEC	25,678	28,865	34,233	33,522	30,044	35,555	32,107	29,059
Parts of Motor Vehicles	17,658	21,841	16,794	19,951	21,596	24,778	21,880	20,558
Professional Equipment	15,481	17,813	17,444	16,864	18,804	19,508	18,901	19,420
Synthetic Resins	7,178	6,565	7,435	6,662	8,160	8,848	12,054	16,197
Electrical Industrial Machinery	10,619	10,698	13,224	13,188	13,204	15,718	13,952	12,392
Office and Computing Machinery	15,677	14,110	17,907	17,096	15,356	15,882	14,901	11,813
Special Industrial Machinery	15,178	15,496	17,135	17,621	15,719	15,527	12,594	11,260
Chemical Products, NEC	8,084	7,412	9,675	8,734	10,873	11,184	9,715	10,818
Drugs and Medicines	6,120	6,722	6,704	8,796	10,903	9,798	10,021	10,010
Other Communications Equipment	25,214	23,335	19,925	17,626	16,117	15,386	12,924	10,590

Source: U.S. Census Bureau, Statistics by Custom District.
NEC = Not Elsewhere Classified.

Section 4 – U.S. and Chicago Region Economy

This section summarizes the national, regional and international economic forecasts on which the regional international and domestic air cargo forecasts are based. The demand for transportation of cargo by air is a direct reflection of the demand for goods in the economy, so an understanding of the future level of goods demand is essential to forecasting air cargo activity. Some sectors of the economy are more closely tied to air cargo than others, due to the nature of the commodities or services involved. Industries in the services sector are more closely tied to express and mail cargo than regular airfreight, while manufacturing industries are more closely tied to regular airfreight. On the other hand, the basic mining and agriculture sectors have little impact on air cargo demand. International air cargo demand is derived from international merchandise trade activity, which in turn depends on the competitiveness of importers and exporters. Background detailed socioeconomic information for the area can be found in Appendix 6.

The Chicago region economy is rebounding from the economic recession experienced in 2001 and 2002. Growth is expected primarily in the services and

government sectors; however, manufacturing will continue to employ a significant percentage of the labor force in the region. Internationally, the strongest economic growth is expected to occur in Asia followed by Eastern (Emerging) Europe.

Section 5 – Historic and Forecast Air Cargo – U.S. and Chicago Region

U.S. Domestic Cargo

Total Chicago Region Domestic Air Cargo

Global Insight forecast domestic air cargo demand for the airports in the Chicago region, using the Global Insight long-term economic outlook for the U.S. and for the individual states in the country, as discussed in Section 4 and Appendix 6. The Chicago region for domestic air cargo was defined as air cargo traveling through the 8-county region that includes Cook, Grundy, Kankakee, Kendall, and Will counties in Illinois plus Lake, Newton and Porter counties in Indiana (see Exhibit 1-2). These counties were chosen since they are closest to the SSA site, and IDOT believes that development of air cargo at SSA will most likely originate from within this area. This definition is different from the U.S. Customs District-based Chicago region used in the international air cargo forecast due to differences in historical data availability between international and domestic air cargo.

The historical domestic air cargo data on which the projections are based was collected from various sources, including the Chicago Department of Aviation, which includes air cargo traffic for O'Hare and Midway through November 2003. Historic air cargo for the Gary/Chicago International Airport and Greater Rockford Airport was provided from the Gary Airport Master Plan and USDOT Bureau of Transportation Statistics, respectively. The forecast also uses commodity-specific tonnage from the Reebie Associates TRANSSEARCH freight flow database. The TRANSEARCH air cargo data is estimated by Reebie from a combination of data sources at a county and commodity level. The 2003 air cargo data by commodity is a Global Insight forecast based on 2001 county-to-county air cargo tonnage data from Reebie's TRANSEARCH database. Reebie uses information from many sources but their air cargo data is estimated primarily from the modal shares of origin-to-destination commodity movements from the 1997 U.S. Commodity Flow Survey and from proprietary waybill and air bill data that they obtain from transportation carriers through their data exchange program. As already mentioned, Global Insight used an 8-county regional definition to define the origins and destinations for the Chicago region. The analysis did not attempt to analyze or forecast in-transit air cargo commodity movements passing through airports in the region because routing data of origin-to-destination flows by commodity is not available.

Total deplaned and emplaned cargo for the Chicago region in 2003 amounted to over 1.1 million tons. With the upturn in economic activity in 2004, this is expected to climb by 3.7 percent to almost 1.15 million tons. Thereafter, the annual growth rates slow as the economy reverts to steadier growth in the future. Over the full 2003-2030-time period, average annual growth is forecast at 2.7 percent, in line with the expected real economic growth of the nation as a whole.

The Chicago region outlook for total domestic air cargo is shown in Exhibit 2-1. The composition of this air cargo traffic by commodity is shown in Table 2-10, ranked by 2003 volumes. Clearly, the category of Mail, Express, and Other Contract dominates the flows, consisting of 37 percent of the total in 2003, followed by Machinery and Electrical Equipment.

The commodity mix is expected to change slightly over time, in line with the growth rates indicated in the right column. The Machinery commodity category is clearly expected to become more important in the future as its growth rate exceeds that of

the total air cargo for the region, while the food products category will grow the most rapidly, at an average of 3.7 percent per year.

Exhibit 2-1
Total Chicago Region Air Cargo Tonnage
Short Tons

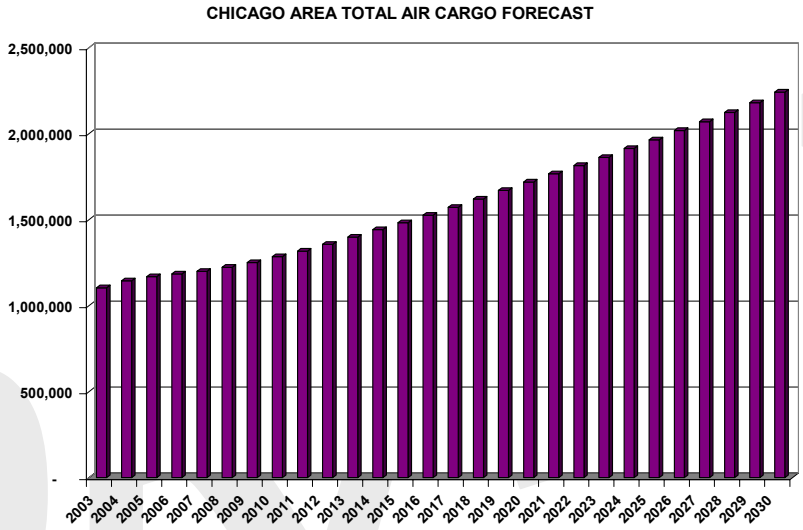


Table 2-10
Chicago Region Total Air Cargo by Commodity, 2003–2030 – Short Tons

Commodity	Share of Total			
	2003 Total	2003 (%)	2030 (%)	% Growth 2003-2030
Mail, Express, Other Contract	405,418	36.7	38.2	2.8
Machinery	169,539	15.4	19.9	3.6
Electrical Equipment	98,261	8.9	8.7	2.6
Misc. Mixed Shipments	76,495	6.9	7.8	3.1
Transportation Equipment	64,598	5.9	3.7	0.9
Chemicals or Allied Products	57,686	5.2	4.3	1.9
Fabricated Metal Products	33,429	3.0	2.6	2.0
Instruments, Photo Equipment, Optical Equipment	27,001	2.4	1.7	1.4
Printed Matter	25,416	2.3	1.5	0.9
Food or Kindred Products	24,777	2.2	2.9	3.7
Farm Products	21,167	1.9	1.9	2.6
Apparel or Related Products	20,851	1.9	1.0	0.3
Pulp, Paper, or Allied Products	18,531	1.7	1.3	1.6
Fresh Fish or Marine Products	16,512	1.5	0.9	0.8
Rubber or Misc. Products	14,452	1.3	1.3	2.7
Misc. Manufacturing	12,185	1.1	1.1	2.6
Clay, Concrete, Glass or Stone	4,340	0.4	0.4	2.5
Textile Mill Products	2,965	0.3	0.3	3.5
Petroleum or Coal Products	2,886	0.3	0.1	-0.4
Leather or Leather Products	2,812	0.3	0.1	-2.9
Furniture or Fixtures	2,737	0.2	0.2	1.9
Lumber or Wood Products	995	0.1	0.1	1.1
Primary Metal Products	736	0.1	0.0	0.4
Total	**1,103,789**	**100.0**	**100.0**	**2.7**

Source: Global Insight, Inc., 2004.

Chicago Region Domestic Air Cargo by Direction

Global Insight also developed a forecast of outbound and inbound cargo, which total to the figures presented in Table 2-10. The forecasts are shown on Exhibit 2-2.

Inbound air cargo to the Chicago region is expected to grow at an average of 2.7 percent per year through 2030, the same as total air cargo. Outbound cargo, which is smaller in volume terms, is expected to realize 2.6 percent growth through the end of the forecast.

The commodity mix is slightly different between enplaned and deplaned cargo, although Mail, Express and Contract still dominate both directions. Some 42 percent of the deplaned cargo is in this category, and 35 percent of the enplaned cargo. The figures for 2003 are shown in Table 2-11 sorted by 2003 enplaned volumes.

Exhibit 2-2
Chicago Region Domestic Air Cargo Forecast, Outbound and Inbound
Short Tons

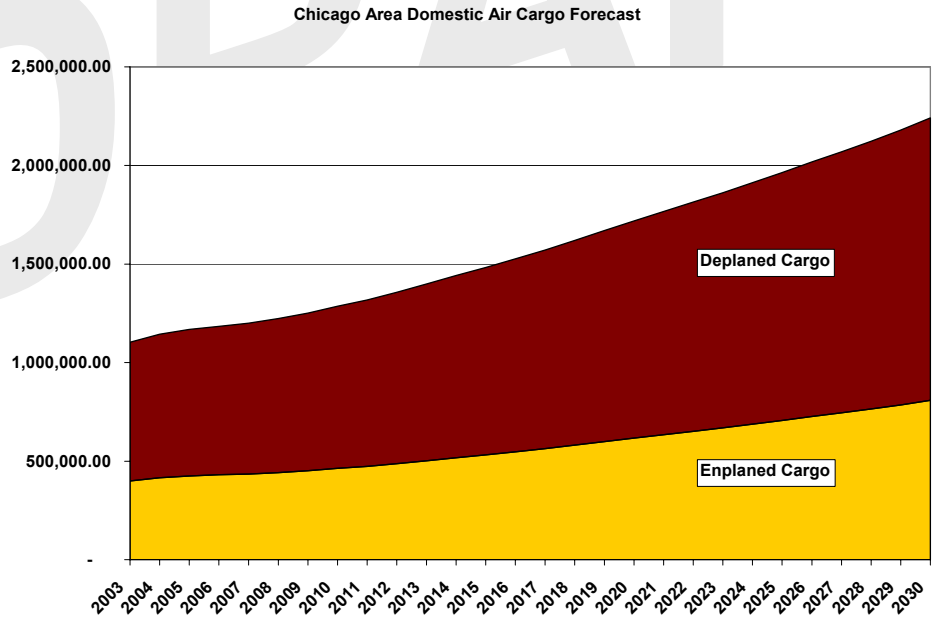


Table 2-11
2003 Domestic Air Cargo Commodity Tonnage in Short Tons

Commodity	Outbound	Inbound
Mail, Express, Other Contract	133,310	272,108
Machinery	88,117	83,851
Electrical Equipment	55,161	45,218
Transportation Equipment	21,920	44,566
Instruments, Photo Equipment, Optical Equipment	14,764	12,741
Fabricated Metal Products	14,745	19,375
Farm Products	13,133	8,444
Chemicals or Allied Products	9,708	49,584
Apparel or Related Products	9,658	11,226
Pulp, Paper, or Allied Products	9,151	9,578
Food or Kindred Products	8,240	17,312
Misc. Manufacturing	5,650	6,827
Printed Matter	4,975	21,071
Rubber or Misc. Products	4,693	10,283
Furniture or Fixtures	2,379	361
Clay, Concrete, Glass or Stone	2,354	2,059
Leather or Leather Products	1,200	1,516
Primary Metal Products	11	746
Misc. Mixed Shipments	2	79,197
Fresh Fish or Marine Products	-	16,608
Textile Mill Products	-	3,121
Lumber or Wood Products	-	1,008
Petroleum or Coal Products	-	3,112
Total	**399,171**	**704,618**

Source: Global Insight, Inc., 2004.

By the end of the period, enplaned cargo should reach 808,000 tons, while deplaned cargo will be 1,433,000 tons, as shown in Tables 2-12 and 2-13, respectively. The imbalance in air cargo reflects the geographic distribution of the origins of commodities shipped by air within the country and the strength of the demand for goods shipped by air by the businesses and consumers within the region. As a consequence, deplaned cargo will be 77 percent larger than enplaned. While the ratio of domestic deplaned to enplaned cargo is high, the international air cargo projection is even more imbalanced in terms of imports over exports. The following section discusses the international air cargo projections for the Chicago region.

Table 2-12
Chicago Area Domestic Air Cargo Forecast
Outbound Cargo in Short Tons: 2003-2030

Commodity Description	2003	2004	2005	2010	2015	2020	2025	2030	CAGR 2003-30
Mail, Express, Other Contract	133,310	139,016	143,151	166,539	200,876	243,743	292,729	354,715	3.7%
Machinery	88,117	92,543	94,966	101,859	119,714	145,541	173,092	202,461	3.1%
Electrical Equipment	55,161	58,717	60,341	63,884	69,102	74,800	78,753	80,666	1.4%
Transportation Equipment	21,920	22,577	22,076	21,411	21,784	20,815	18,902	16,873	-1.0%
Instruments, Photo Equipment, Optical Equipment	14,764	15,131	15,291	15,095	15,562	16,354	16,865	17,155	0.6%
Fabricated Metal Products	14,745	14,895	14,870	15,497	16,945	18,326	19,771	21,241	1.4%
Farm Products	13,133	13,730	14,099	15,612	17,700	20,223	22,883	25,507	2.5%
Chemicals Or Allied Products	9,708	10,082	10,277	10,433	10,829	11,154	11,532	11,741	0.7%
Apparel Or Related Products	9,658	9,725	9,816	9,868	10,420	10,785	11,369	11,544	0.7%
Pulp, Paper, Or Allied Products	9,151	9,401	9,558	10,496	11,978	13,356	14,738	16,040	2.1%
Food Or Kindred Products	8,240	8,517	8,667	9,815	11,646	13,553	15,415	17,517	2.8%
Miscellaneous Manufacturing	5,650	6,024	6,250	7,296	8,824	10,493	11,916	13,383	3.2%
Printed Matter	4,975	5,010	4,950	4,748	4,688	4,602	4,440	4,245	-0.6%
Rubber Or Miscellaneous Products	4,693	4,738	4,701	4,740	5,051	5,272	5,466	5,659	0.7%
Furniture Or Fixtures	2,379	2,467	2,493	2,690	3,052	3,421	3,802	4,173	2.1%
Clay, Concrete, Glass Or Stone	2,354	2,448	2,486	2,801	3,310	3,762	4,582	5,139	2.9%
Leather Or Leather Products	1,200	1,178	1,122	835	637	512	437	356	-4.4%
Primary Metal Products	11	11	12	14	17	20	21	23	2.7%
Miscellaneous Mixed Shipments	2	2	2	2	2	2	2	-	
Fresh Fish Or Marine Products	-	-	-	-	-	-	-	-	
Textile Mill Products	-	-	-	-	-	-	-	-	
Lumber Or Wood Products	-	-	-	-	-	-	-	-	
Petroleum Or Coal Products	-	-	-	-	-	-	-	-	
	399,171	**416,213**	**425,126**	**463,636**	**532,138**	**616,732**	**706,716**	**808,439**	**2.6%**

Source: Global Insight, Inc., 2004.
CAGR = compound annual growth rate.

Table 2-13
Chicago Area Domestic Air Cargo Forecast
Inbound Cargo in Short Tons: 2003-2030

Commodity Description	2003	2004	2005	2010	2015	2020	2025	2030	CAGR 2003-30
Mail, Express, Other Contract	272,108	280,318	285,123	311,886	353,054	400,809	446,629	501,819	2.3%
Machinery	81,422	83,851	85,875	99,125	125,083	159,489	197,707	243,707	4.1%
Misc Mixed Shipments	76,494	79,197	81,593	93,982	110,450	129,906	150,499	175,969	3.1%
Chemicals Or Allied Products	47,979	49,584	50,484	55,028	62,846	69,346	76,853	84,710	2.1%
Electrical Equipment	43,100	45,218	47,301	56,842	69,022	83,257	98,483	114,778	3.7%
Transportation Equipment	42,678	44,566	44,967	45,621	50,845	57,337	62,101	65,325	1.6%
Printed Matter	20,441	21,071	21,507	22,612	24,446	26,115	27,430	28,493	1.2%
Fabricated Metal Products	18,684	19,375	19,791	21,645	24,898	28,782	32,427	36,506	2.5%
Food Or Kindred Products	16,537	17,312	17,838	21,322	26,654	32,723	40,029	47,969	4.0%
Fresh Fish Or Marine Products	16,512	16,608	16,627	17,241	18,316	19,626	20,397	20,729	0.8%
Instruments, Photo Equipment, Optical Equipment	12,236	12,741	12,981	13,826	15,358	17,220	19,401	21,963	2.2%
Apparel Or Related Products	11,193	11,226	11,331	11,072	11,116	11,506	11,335	10,779	-0.1%
Rubber Or Miscellaneous Products	9,759	10,283	10,625	12,221	14,879	18,028	20,928	24,133	3.4%
Pulp, Paper, Or Allied Products	9,380	9,578	9,599	9,913	10,639	11,281	11,707	12,178	1.0%
Farm Products	8,034	8,444	8,675	10,029	11,711	13,536	15,185	16,836	2.8%
Miscellaneous Manufacturing	6,534	6,827	7,023	7,464	8,261	9,152	9,965	10,836	1.9%
Textile Mill Products	2,965	3,121	3,211	3,665	4,501	5,279	6,536	7,419	3.5%
Petroleum Or Coal Products	2,886	3,112	3,105	2,911	2,780	2,600	2,766	2,589	-0.4%
Clay, Concrete, Glass Or Stone	1,986	2,059	2,103	2,269	2,534	2,840	3,159	3,344	1.9%
Leather Or Leather Products	1,612	1,516	1,360	1,049	916	837	873	911	-2.1%
Lumber Or Wood Products	995	1,008	988	1,026	1,101	1,164	1,247	1,341	1.1%
Primary Metal Products	725	746	754	784	871	842	879	792	0.3%
Furniture Or Fixtures	358	361	356	345	351	358	359	360	0.0%
	704,618	**728,121**	**743,219**	**821,875**	**950,631**	**1,102,030**	**1,256,893**	**1,433,485**	**2.7%**

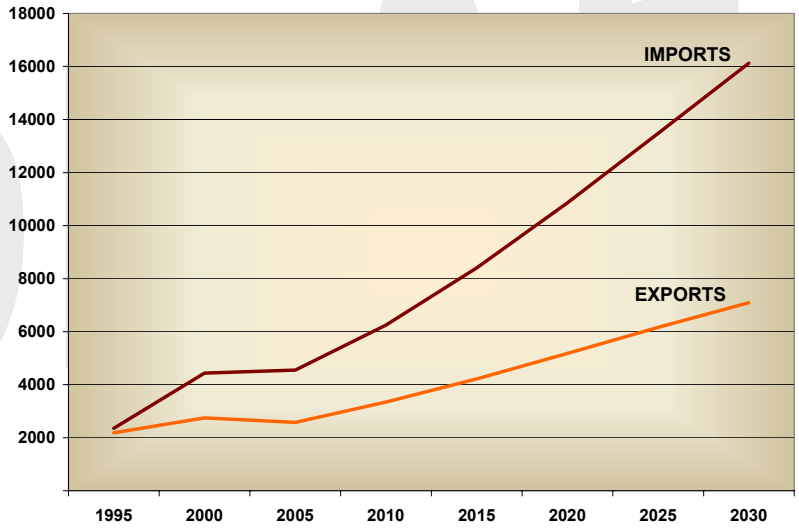
Source: Global Insight, Inc., 2004.
CAGR = compound annual growth rate.

U.S. International Air Cargo

In 1995, U.S. international air cargo was nearly balanced in tonnage terms between imports and exports. By 2003, imports were already well ahead of exports, as the U.S. economy grew from a mild recession on the strength of renewed consumer demand. Indeed, over the final five years of the 1990s, air cargo imports averaged 13.5 percent annual growth, while exports improved at 4.7 percent annual growth.

In Global Insight's U.S. forecast, imports are forecast to continue their stronger growth over exports, thereby increasing the gap between them, as shown in Exhibit 2-3. The underlying data is shown in Table 2-14, which shows that by 2015, international imports will be double the export volumes.

Exhibit 2-3
U.S Total Airborne Trade in Thousands of Metric Tons



Source: U.S. Census Bureau, Historic Data 1995-2002.

Table 2-14
U.S. Total International Air Cargo in Metric Tons

Year	U.S. Exports	U.S. Imports	Total
1995	2,183,720	2,355,634	**4,539,354**
2000	2,750,126	4,437,242	**7,187,369**
2005	2,581,809	4,547,667	**7,129,476**
2010	3,342,971	6,245,521	**9,588,493**
2015	4,217,832	8,403,159	**12,620,991**
2020	5,178,838	10,852,378	**16,031,216**
2025	6,164,188	13,481,097	**19,645,285**
2030	7,093,401	16,126,291	**23,219,692**
CAGR 2000 - 2020	3.2%	4.6%	**4.1%**
CAGR 2000 - 2030	3.2%	4.4%	**4.0%**

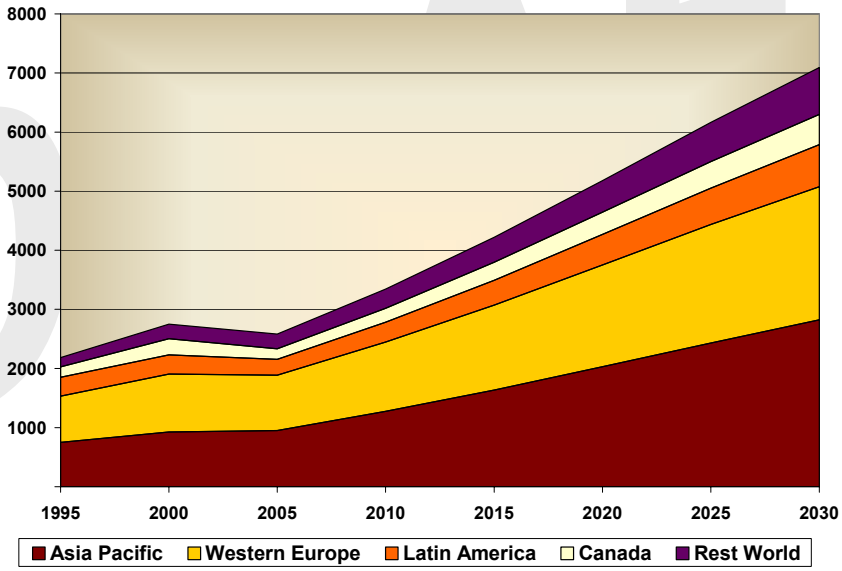
Source: U.S. Census Bureau; Global Insight, 2004.
CAGR = compound annual growth rate.

Air cargo exports are driven by expected economic developments in the major U.S. trading partners. Global Insight used its 125 macroeconomic models grouped into five regions, and calculated the historic and forecast growth in air cargo to each region from the U.S. (see Appendix 7). The strength of exports through 2001 collapsed in 2002 when exports to most regions fell; total exports slid by more than 27 percent, putting total U.S. air cargo exports back to their 1995 level. Last year,

2003, saw a turnaround with a 4.1 percent increase in total exports. During the one-year drop, exports to Asia also fell, but less than to other regions, thereby giving Asia an even greater share of total U.S. air cargo exports, at 37 percent. Because of the expected strength of these economies, the forecast calls for U.S.-Asia air cargo exports to grow at one of the fastest rates. Exports to Mexico by air should also improve as that economy eventually starts growing, under the halo of strong U.S. growth. However, for air cargo exports in general, Asia is expected to experience the strongest growth in the future.

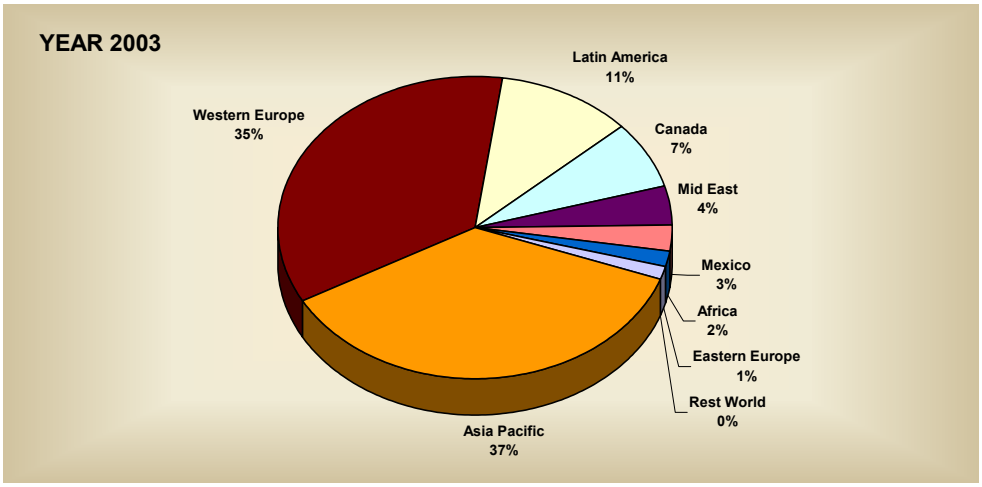
The forecast level of air cargo exports in tons is shown in Exhibit 2-4, starting from the 2003 regional shares depicted in Exhibit 2-5.

Exhibit 2-4
U.S. Total Airborne Exports in Thousands of Metric Tons by Region



Source: U.S. Census Bureau; Global Insight, 2004

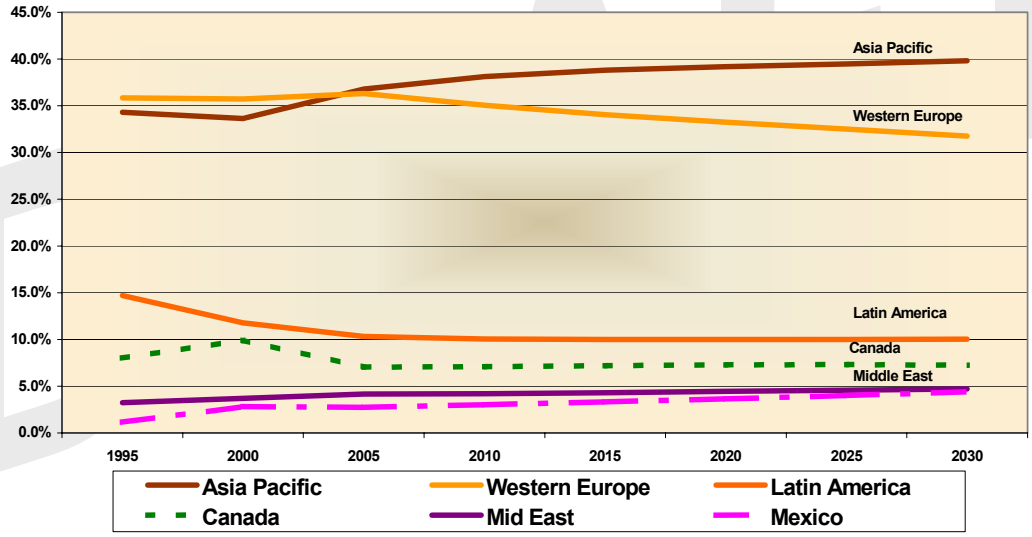
Exhibit 2-5
Share by Region of U.S. Total Airborne Exports



Source: U.S. Census Bureau.

The expected growth in U.S. exports by region, with Asia reaching dominance over Western Europe, is shown in Exhibit 2-6. Mexico and the Middle East are also forecast to increase in market share while Latin America will decrease in importance as a destination for exports. While some countries like Brazil are projected to see strong economic growth, other "laggards" such as Colombia and Peru, as well as Central America and the Caribbean dim the region's real economic prospects. Canada has seen a loss of market share in the near term, however Canada will sustain its importance in overall market share through 2030.

Exhibit 2-6
Share by Region on U.S. Total Airborne Exports Forecast



Source: U.S. Census Bureau; Global Insight, 2004.

The underlying air cargo export tonnage forecast is displayed in Tables 2-15 and 2-16, including compound annual growth rates for key intervals. The macroeconomic bases for the forecast are discussed in Appendix 7.

Table 2-15
U.S. Total Airborne Exports in Metric Tons by Region and Compound Annual Growth Rates

Origin	1995	2000	2005	2010	2015	2020	2030	Compound Annual Growth Rate 1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	2020-2030
Asia Pacific	749,012	924,542	949,262	1,274,209	1,635,848	2,028,434	2,824,078	4.3%	0.5%	6.1%	5.1%	4.4%	3.4%
Western Europe	782,436	982,252	936,947	1,172,099	1,435,851	1,721,105	2,251,871	4.7%	-0.9%	4.6%	4.1%	3.7%	2.7%
Latin America	321,252	323,874	266,080	335,689	421,430	517,234	710,770	0.2%	-3.9%	4.8%	4.7%	4.2%	3.2%
Canada	175,014	273,168	181,806	236,638	302,939	376,443	512,177	9.3%	-7.8%	5.4%	5.1%	4.4%	3.1%
Mid East	70,293	101,246	106,944	140,188	181,548	229,696	334,239	7.6%	1.1%	5.6%	5.3%	4.8%	3.8%
Mexico	25,069	77,325	70,850	100,433	139,813	187,895	312,091	25.3%	-1.7%	7.2%	6.8%	6.1%	5.2%
Africa	28,338	33,349	34,218	38,717	44,400	50,143	57,796	3.3%	0.5%	2.5%	2.8%	2.5%	1.4%
Eastern Europe	29,465	30,306	32,858	41,691	52,091	63,307	84,667	0.6%	1.6%	4.9%	4.6%	4.0%	2.9%
Rest World	2,840	4,064	2,842	3,308	3,912	4,583	5,713	7.4%	-6.9%	3.1%	3.4%	3.2%	2.2%
WORLD	**2,183,720**	**2,750,126**	**2,581,809**	**3,342,971**	**4,217,832**	**5,178,838**	**7,093,401**	**4.7%**	**-1.3%**	**5.3%**	**4.8%**	**4.2%**	**3.2%**

Source: U.S. Census Bureau; Global Insight, 2004.

Table 2-16
U.S. Total Airborne Imports in Metric Tons by Region and Compound Annual Growth Rates

Destination	1995	2000	2005	2010	2015	2020	2030	Compound Annual Growth Rate 1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	2020-2030
Asia Pacific	845,787	1,484,964	2,081,470	3,069,604	4,365,164	5,902,798	9,629,595	11.9%	7.0%	8.1%	7.3%	6.2%	5.0%
Western Europe	831,747	1,908,894	1,238,762	1,586,902	2,013,727	2,464,739	3,240,989	18.1%	-8.3%	5.1%	4.9%	4.1%	2.8%
Latin America	444,293	538,065	696,245	869,897	1,069,822	1,266,800	1,522,232	3.9%	5.3%	4.6%	4.2%	3.4%	1.9%
Mid East	115,690	210,112	232,777	304,537	390,558	480,183	621,372	12.7%	2.1%	5.5%	5.1%	4.2%	2.6%
Canada	37,507	101,226	75,574	106,975	147,651	193,561	283,065	22.0%	-5.7%	7.2%	6.7%	5.6%	3.9%
Mexico	36,240	79,602	73,811	108,012	156,122	218,919	384,812	17.0%	-1.5%	7.9%	7.6%	7.0%	5.8%
Eastern Europe	16,768	53,971	57,821	78,743	105,989	138,301	210,964	26.3%	1.4%	6.4%	6.1%	5.5%	4.3%
Rest World	13,202	32,544	50,409	68,556	89,235	110,406	142,915	19.8%	9.1%	6.3%	5.4%	4.3%	2.6%
Africa	14,401	27,863	40,799	52,295	64,890	76,669	90,348	14.1%	7.9%	5.1%	4.4%	3.4%	1.7%
WORLD	**2,355,634**	**4,437,242**	**4,547,667**	**6,245,521**	**8,403,159**	**10,852,378**	**16,126,291**	**13.5%**	**0.5%**	**6.6%**	**6.1%**	**5.2%**	**4.0%**

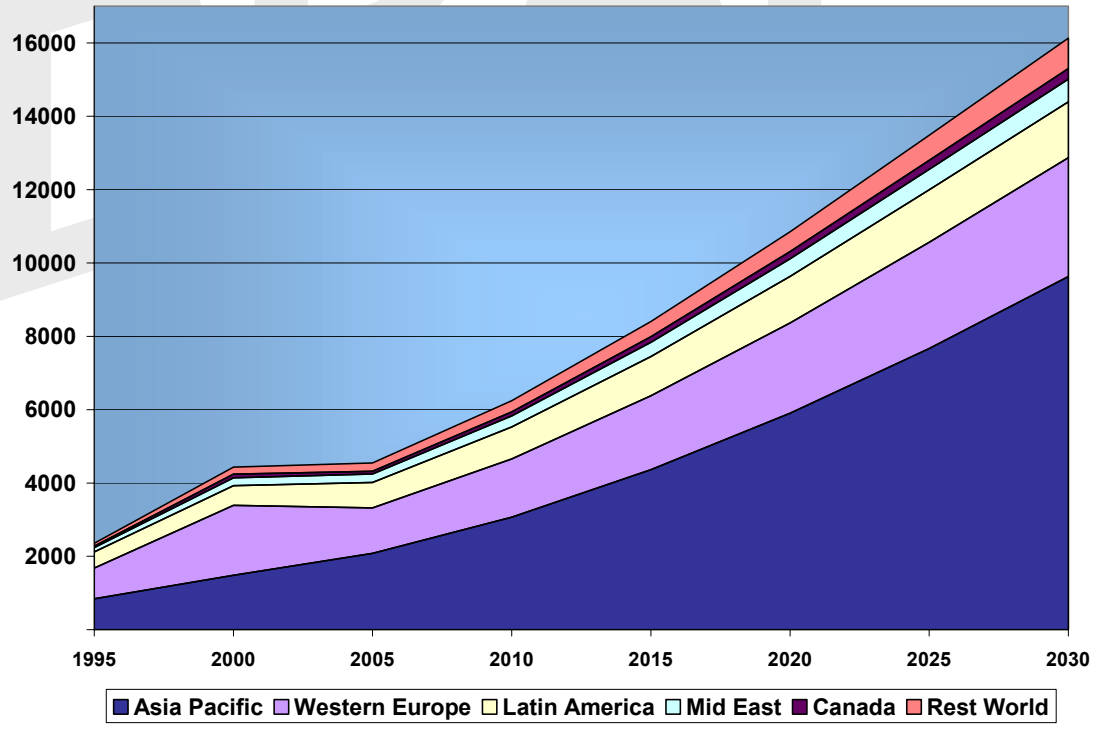
Source: U.S. Census Bureau; Global Insight, 2004.

The rapid growth in U.S. air cargo imports is depicted in Exhibit 2-7, showing the forecast tonnage from each key region. Clearly, Asia dominates U.S. imports and is expected to grow even stronger throughout the forecast. The 3.8 million tons of air cargo imports in 2003 is expected to grow to 16.1 million tons in the final forecast year, 2030, with Asia's share (see Exhibit 2-8) increasing from 41 percent in 2003 to 57 percent at the end of the period.

Asia as a source of air cargo is predicted to grow faster than any other U.S. trade partner region, in line with China's growth in exports. Indeed, by 2030, the forecast calls for imports from Asia to be nearly triple the tonnage imports from Western Europe.

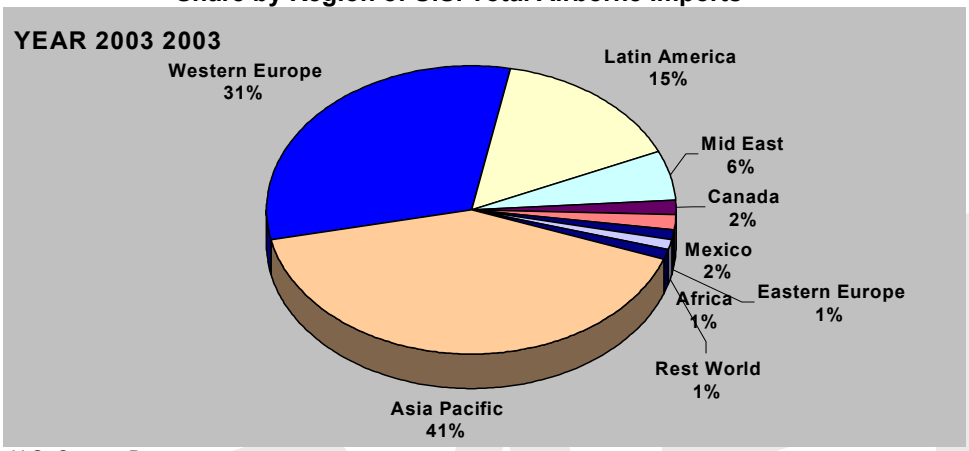
Air cargo import shares by year are shown in Exhibit 2-9, which clearly shows the dominance of Asia and Western Europe. Imports from Latin America will stabilize in terms of share but are projected to exceed those from Canada from which most cross-border imports are by truck. Mexico should have a small increase in U.S. import share as it moves to higher value-added products serving the U.S. market.

Exhibit 2-7
U.S. Total Airborne Imports in Thousands of Metric Tons by Region



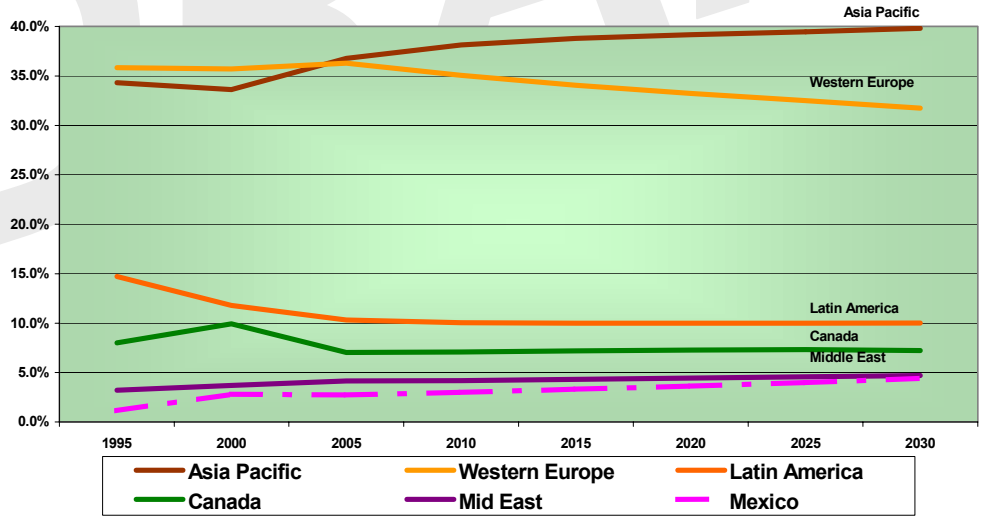
Source: U.S. Census Bureau; Global Insight, 2004.

Exhibit 2-8
Share by Region of U.S. Total Airborne Imports



Source: U.S. Census Bureau.

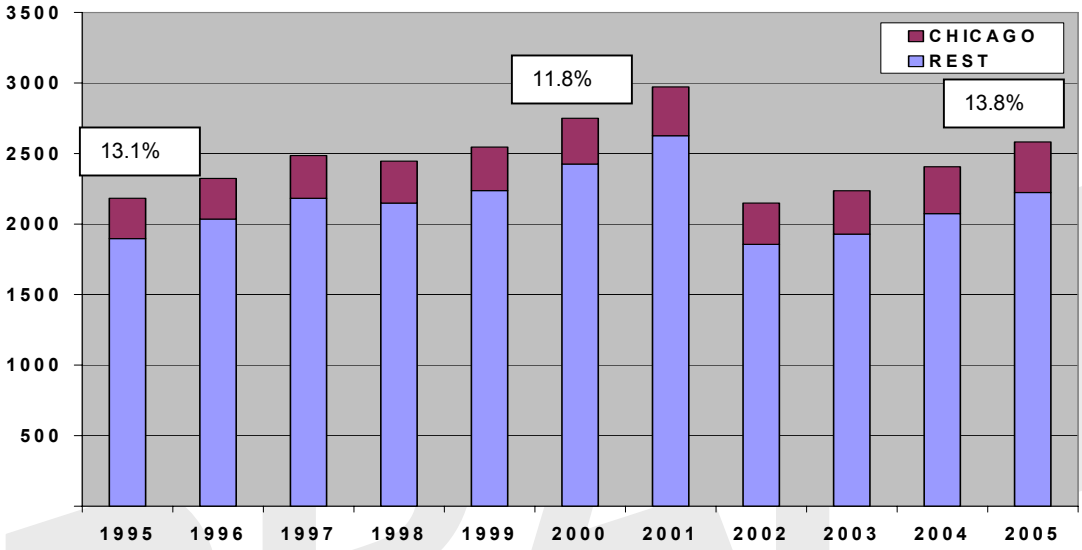
Exhibit 2-9
Share by Region on U.S. Total Airborne Imports Forecast



Source: U.S. Census Bureau; Global Insight, 2004.

Focusing in on international air cargo in the Chicago region, defined here using trade statistics published by Customs District from the U.S. Bureau of the Census, the forecast is for recovery in the Chicago region share of the U.S. total air cargo exports following 2002. The region's export share of the U.S. total, shown in Exhibit 2-10 and Table 2-17, will increase to 13.8 percent in 2005 from the 13.1 percent held in 1995.

Exhibit 2-10
Chicago Region Share of U.S. Total Airborne Tonnage Exports



Source: U.S. Census Bureau – Statistics by Custom Districts; Global Insight, 2004.

Table 2-17
Chicago Region Share of U.S. Total Airborne Tonnage Exports

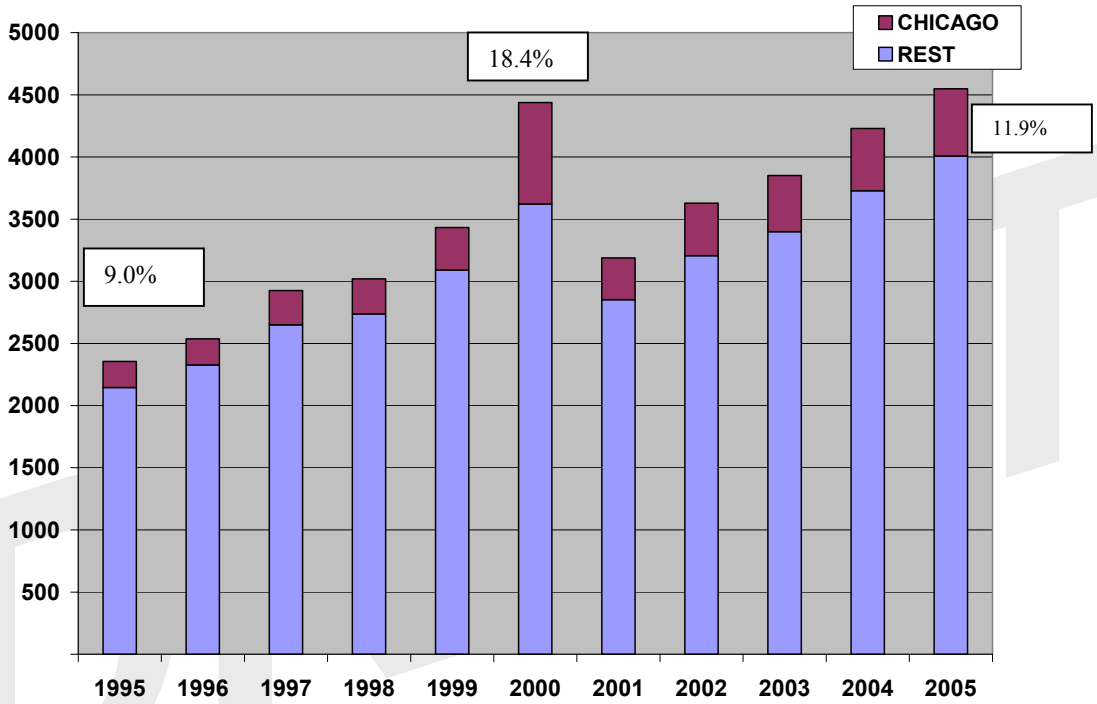
Year	Total U.S. Exports	Total U.S. Exports without Chicago	Chicago Share	Percentage Share
1995	2,184	1,897	**287**	13.1%
1996	2,324	2,036	**288**	12.4%
1997	2,487	2,183	**304**	12.2%
1998	2,446	2,148	**298**	12.2%
1999	2,546	2,237	**309**	12.1%
2000	2,750	2,426	**324**	11.8%
2001	2,972	2,627	**346**	11.6%
2002	2,148	1,856	**292**	13.6%
2003	2,237	1,930	**307**	13.7%
2004	2,407	2,075	**331**	13.8%
2005	2,585	2,224	**357**	13.8%

Source: U.S. Census Bureau – Statistics by Custom Districts; Global Insight, 2004.

Following the sharp fall-off in 2002, the Chicago region's air cargo imports, are projected to rebound in share of the U.S. market to 11.9 percent by 2005 compared with 9 percent of U.S. air cargo imports in 1995.

As depicted in Exhibit 2-11 and Table 2-18, this rebound will happen quickly with the region coming out of the recession with a projected greater share of U.S. imports than before the boom of the late 1990s.

Exhibit 2-11
Chicago Region Share of U.S. Total Airborne Tonnage Imports



Source: U.S. Census Bureau – Statistics by Custom Districts; Global Insight, 2004.

Table 2-18
Chicago Region Share of U.S. Total Airborne Tonnage Imports

Year	Total U.S. Imports	Total U.S. Imports without Chicago	Chicago Share	Imports Percentage Share
1995	2,356	2,145	**211**	9.0%
1996	2,537	2,327	**210**	8.3%
1997	2,924	2,650	**274**	9.4%
1998	3,018	2,737	**281**	9.3%
1999	3,432	3,091	**341**	9.9%
2000	4,437	3,621	**816**	18.4%
2001	3,187	2,852	**336**	10.5%
2002	3,628	3,205	**423**	11.7%
2003	3,851	3,399	**452**	11.7%
2004	4,228	3,729	**499**	11.8%
2005	4,548	4,099	**539**	11.9%

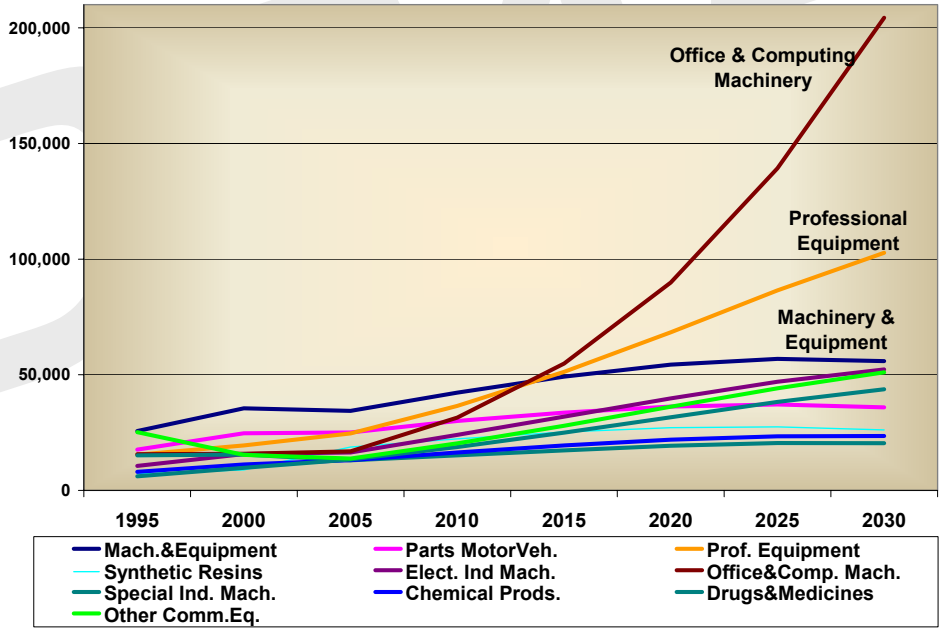
Source: U.S. Census Bureau – Statistics by Custom Districts; Global Insight, 2004.

The machinery and equipment category has historically been the strongest for airborne exports in the Chicago region. This category includes components and parts and amounted to 30,337 tons in 2003. As the manufacturing base in the region, and for the nation as a whole, has shifted more to higher-technology and higher value-added products, the commodities categories of most significance in the forecast are office and computing machinery, and professional equipment. The exports from the

Chicago region of these and the other top 10 commodities are shown in Exhibit 2-12 and Table 2-19.

While the Chicago region exports of office and computing machinery are fast growing, so are the imports of the same category, especially from Asia. As shown in Exhibit 2-13 and Table 2-20, growth in office and computing machinery imports will outpace the other air-susceptible merchandise, averaging 10.8 percent per year over the full 2003 – 2030 time period. The two-way trade with Asia of the office and computing machinery category is the most significant in the forecast. It should be noted that the goods covered in this category include equipment often used for entertainment purposes by households including multi-media personal computers and related products.

Exhibit 2-12
Chicago Region Airborne Metric Tons Exports



Source: U.S. Census Bureau – Statistics by Custom Districts; Global Insight, 2004.

Table 2-19
Chicago Region Top 10 Commodities – Exports

Commodities	1995	2000	2005	2010	2015	2020	2025	2030
Machinery & Equipment	25,678	35,555	34,402	42,277	49,223	54,446	56,916	55,918
Parts Motor Vehicles	17,658	24,778	25,058	30,022	33,649	36,243	37,215	35,931
Professional Equipment	15,481	19,508	24,709	36,555	51,292	68,374	86,491	102,763
Synthetic Resins	7,178	8,848	18,756	22,336	25,304	27,175	27,456	26,131
Electrical Industrial Machinery	10,619	15,718	16,434	23,990	31,901	39,795	46,996	52,329
Office & Computing Machinery	15,677	15,882	16,904	31,506	54,848	89,872	139,279	204,354
Special Industrial Machinery	15,178	15,527	13,028	15,182	17,384	19,322	20,533	20,472
Chemical Products.	8,084	11,184	13,089	16,384	19,476	22,004	23,436	23,600
Drugs & Medicines	6,120	9,798	13,437	18,788	24,955	31,677	38,274	43,745
Other Communications Equipment	25,214	15,386	13,784	20,368	27,966	36,187	44,191	51,054
OTHER	140,120	152,306	167,834	203,455	237,328	266,330	285,619	291,174
Sum	287,006	324,492	357,435	460,862	573,325	691,426	806,405	907,472

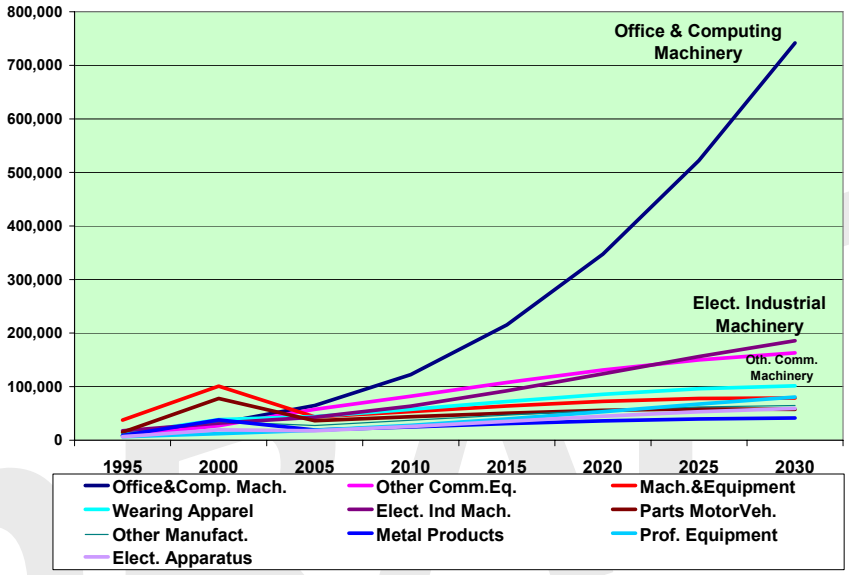
Source: Global Insights Inc, 2004.

Table 2-20
Chicago Region Top 10 Commodities – Imports

Commodities	1995	2000	2005	2010	2015	2020	2025	2030
Office & Computing Machinery	8,964	31,755	64,786	122,674	215,494	347,301	522,145	741,593
Other Communications Equipment	7,891	27,280	57,572	81,894	107,684	131,201	150,038	163,168
Machinery & Equipment	37,286	100,727	43,317	53,370	63,934	72,506	77,912	78,762
Wearing Apparel	11,199	38,670	44,178	57,789	72,297	85,607	95,977	101,375
Electrical Industry Machinery	17,389	31,877	42,959	63,538	92,271	123,895	156,199	185,754
Parts Motor Vehicles	14,886	77,867	36,311	43,598	50,280	55,576	58,557	57,855
Other Manufacturing, NEC	11,865	34,772	27,505	37,002	46,971	55,606	61,883	64,758
Metal Products	8,463	37,896	19,252	24,983	30,918	36,095	39,848	41,432
Professional Equipment	6,461	12,340	18,615	27,592	39,604	53,186	67,416	80,616
Electrical Apparatus	6,551	19,349	17,351	25,609	35,239	44,795	53,099	59,382
OTHER	80,025	403,536	167,278	211,776	259,256	301,338	332,546	347,996
Sum	210,980	816,068	539,125	749,825	1,013,948	1,307,107	1,615,622	1,922,690

Source: Global Insights Inc, 2004.
NEC = Not Elsewhere Classified.

Exhibit 2-13
Chicago Region Airborne Metric Tons Imports



Source: U.S. Census Bureau – Statistics by Custom Districts; Global Insight, 2004.

Section 6 - Expected South Suburban Airport Air Cargo Role

As noted in previous sections, air cargo comes in many shapes and sizes. The ultimate South Suburban Airport will be designed to be a supplemental commercial service airport for the Chicago region, of which cargo will be one facet. Based on the discussion contained in Section 3, (Chicago Air Cargo Characteristics) the potential cargo role of the Inaugural South Suburban Airport is the handling of Special and General cargo, which could serve the industrial and warehousing facilities presently located in the south and southwest suburbs of Chicago.

As noted in Chapter 1, the Air Passenger role of the IAP is expected to be fulfilled mainly by low-cost carriers (LCC). Normally, due to the gauge of aircraft used and the business model that they operate under, LCCs do not typically transport much belly cargo. Therefore, the IAP does not anticipate a large percentage of air cargo activity to be generated by belly cargo.

Also, due to present market saturation and potential further consolidation in the express carrier industry, IDOT does not anticipate IAP to grow into a hub-sort facility similar to other regional hubs like Rockford, but anticipates the airport to serve a portion of the O-D cargo market in the Chicago region. It is expected, though, that IAP will be linked to other existing express hub operations similar to Peoria, Decatur and Moline, Illinois. Beyond IAP, the air express market will dictate any potential domestic hub-sort operation at SSA.

L.E.K. Consulting conducted a preliminary airline survey of several Asian airlines currently providing cargo services to the U.S. to identify factors that determine which airports they utilize and whether they would be interested in a new airport in the Chicago region.[140] Their number one concern was ground access; in order to make a new airport attractive, good ground access must be provided. Other relevant issues mentioned were competitive rates and prices, expeditious processing times, qualified staff, hours of operation, adequate airside and landside facilities and logistics to deal

[140] L.E.K. memo to TAMS/ Earth Tech, International Cargo Requirement for South Suburban Airport, January 9, 2004.

with the new security regulations and procedures that are being defined by the U.S. Transportation Security Administration. The new regulations could significantly impact the sizing of cargo facilities in the future. Some of the airlines expressed some interest in serving a new airport as long as the freight forwarders, their main customers, are willing to move to a new facility. IDOT found that most of the air cargo infrastructure the airlines currently use at O'Hare belong to their freight forwarders, which are their main clients. They stated in the survey that they would consider moving to a new facility as long as their freight forwarders agree to relocate.

Other parameters that could make the airport competitive are the following:

- Competitive price: main cost of a freight operation is landing fees. If the new airport could provide a more reasonable price per tons, it would be very attractive.
- Cost of running the business: should be attractive compared to the old airport. This will include quick turnaround time.
- Advanced hardware and facilities.
- Skills of the air cargo staff and other airport personnel.
- Operational airport hours: The more hours an airport is open, the greater flexibility airlines have to operate there.
- Convenience: it should be convenient for clients to pick up their goods and have user-friendly facilities.
- New airport should have full arrangement of logistics with the operation of all major ground service companies and related service facilities.
- Advanced equipment meeting the needs of potential new security requirements.

With the appropriate airport facilities, surrounding urban infrastructure and ground access, SSA has the opportunity to compete for air cargo service in the Chicago region. The proposed site is located in the fastest growing county in the State of Illinois and the fifth in the whole nation[141] and has good ground access with several major highways and railroad lines. It is important to point out that the I-80 corridor located north of the SSA site and south of the City of Chicago is one of the busiest truck corridors in the nation.[142]

Section 7 - Forecasts of IAP Air Cargo Aviation Activity

This section presents the anticipated Forecasts of Air Cargo Aviation Activity for the Inaugural Airport Program at the South Suburban Airport. The forecasts include projections of air cargo operations (by type), cargo tonnage, and annual instrument approach procedures. A Base Level projection along with two alternate assessments (High and Low) is given.

IDOT believes that SSA is ideally suited to handle air cargo for the following reasons:

1) The SSA site is located in the largest metropolitan area in the central U.S.;
2) It has a large O&D cargo market currently being serviced by O'Hare International Airport and, to a much lesser extent, Greater Rockford Airport;
3) It is an international port of entry; and
4) It can provide access to a large portion of the U.S. population.

Global Insight has generated domestic and international air cargo forecasts up to the year 2030 for the whole Chicago region based on commodities that are normally transported by air. The distances to airports are not as critical when it comes to air cargo, a difference between it and air passenger activity. The use of airports for air

[141] Population Division, U.S. Census Bureau, Table 9 – Population Estimates for the 100 Fastest Growing U.S. Counties in 2003: April 1, 2000 to July 1, 2003. Release Date: April 9, 2004.
[142] Bureau of Highways, Illinois Department of Transportation.

cargo is based upon business decisions made by cargo operators. Therefore, SSA could develop air cargo activity in the first years of activity.

Cargo Case Studies

IDOT has reviewed several case studies to estimate the cargo forecasts for SSA. The forecast approach taken to estimate the cargo volume at the new airport is to assume that a percentage of the total cargo volume of the Chicago region would be served at SSA. At the suggestion of the FAA, IDOT initially reviewed historic cargo data at Stewart International Airport (SWF) in Newburgh, NY to determine the impact this airport has had on cargo activity in the Greater New York City Metropolitan area. SWF reached an air cargo traffic level of 100,000 short tons in 1994, but then dropped significantly afterwards to 14,000 short tons in 2003. After discussions with several experts familiar with the situation at SWF, IDOT learned the following:

- Cargo operators were concerned about the priorities of the private operator that took over SWF in 2000. The State of New York announced the airport privatization program in January 1996.[143] National Express, the current airport operator, stated from the beginning that they would focus on attracting more passenger activity to SWF since it would generate more revenue to the airport.
- John F Kennedy International Airport (JFK) has significantly modernized and expanded several cargo facilities in the late 1990's providing more cargo capacity.[144]
- Emery Worldwide, a main cargo customer at SWF, lost its flying license in August 2001, significantly affecting cargo traffic there. Emery used to have a contract with the United States Postal Service (USPS) to carry some of their mail.
- Current ground access to SWF is via a major arterial with limited controlled access, some distance from the airport. The State of New York has proposed constructing a major interchange on I-84, which runs north of the airport site, to provide a more direct link to the airport. However, some local environmental groups have strongly opposed its development since some of the interchange would be located in highly sensitive environmental areas (i.e., nature preserves). Thus, the project has been on hold which has affected access to the airport, an important factor to freight forwarders.
- Reduction of commercial passenger service at SWF has occurred since airfares offered at SWF have not been competitive with other airports in the region. For instance, Southwest Airlines commenced operations at Long Island MacArthur Airport and Hartford, Connecticut, and JetBlue has begun service at JFK and now has service to LaGuardia. In addition, most of the flights to SWF are with regional jets, reducing the potential cargo belly capacity.
- The significant reduction of IBM staff in the Mid-Hudson/Catskill Region has probably impacted the level of activity at the airport. They have historically been one of the main employers in the area.
- The current cargo facilities do not meet current standards, particularly the terminal building.

For these reasons, IDOT has concluded that SWF is not a good case study to be used as a benchmark for SSA.

Domestic Air Cargo Traffic Analysis

IDOT then evaluated other metropolitan areas in the country that have at least two airports providing air carrier service to their respective regions, to determine the

[143] Stewart International Airport, http://www.stewartintlairport.com/home.html, 2004.
[144] Port Authority of New York and New Jersey, http://www.panynj.gov/aviation/jhisfram.htm, 2004.

percentage of cargo that each airport in a multi-airport system carried. Historic data from 1993 to 2002 was retrieved from Airports Council International (ACI) Annual Worldwide Airport Traffic Reports and respective airport websites to review trends. Case studies were developed for both domestic and international traffic for five major metropolitan areas, including the following:

- Boston Metropolitan Area (Logan, Manchester, New Hampshire; Providence and Rhode Island Airports);
- Miami – Ft Lauderdale Metropolitan Area (Miami and Ft. Lauderdale Airports);
- Houston Metropolitan Area (Ellington, George Bush Intercontinental, and Hobby Airports);
- Los Angeles Metropolitan Area (Los Angeles International, Burbank, Long Beach and Ontario Airports); and
- San Francisco Metropolitan Area (San Francisco International, Oakland and San Jose Airports).

These five markets were chosen for their similarity with the Chicago market, namely a primary international passenger/cargo hub airport (O'Hare) with secondary airports handling primarily domestic passenger traffic and domestic freight (Midway and the proposed SSA at DBO).

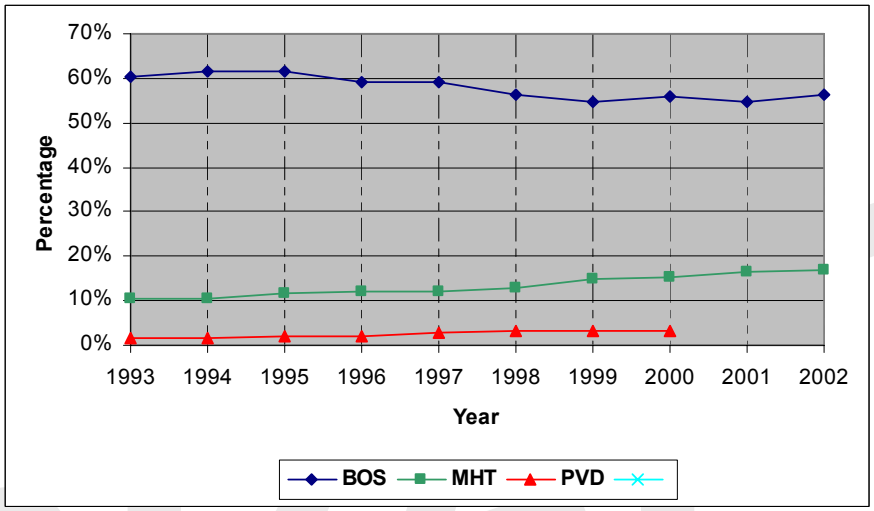
The study also reviewed the breakdown for the Dallas – Ft. Worth metropolitan area (Dallas-Ft. Worth and Alliance Airports) since 1999. Although the levels of activity at these airports would most likely be different than the potential SSA traffic, they can provide an indication of benchmark levels of air cargo activity that could be expected at SSA. According to Annual ACI Worldwide Traffic Reports, Alliance had 25.0 percent in 1999, 31.6 percent in 2000, 32.5 percent in 2001 and 29.8 percent in 2002 of the total domestic cargo market of the Dallas – Ft. Worth metropolitan area.

The following charts depict the distribution of domestic cargo activity by airport for the five metropolitan areas from 1993 to 2002. Mail was not included in the analysis since the Chicago region forecast addresses commodities (freight). Most of the data was obtained from the ACI Annual Worldwide Traffic Report and complemented with figures obtained from airport websites. The analysis found that some of the supplemental airports carried a significant percentage of the total domestic cargo in the region.

Boston Metropolitan Area

Manchester Airport (MHT) has steadily increased its share of the Boston area air cargo, carrying approximately 15 percent of air cargo in the Boston market over the last couple of years, as shown in Exhibit 2-14. Additionally, Providence Airport (PVD) has accounted for about 3 percent of the total traffic. Logan International Airport (BOS) has experienced a slight decrease from 60 to 56 percent in the studied period.

Exhibit 2-14
Boston Metropolitan Area
Domestic Air Cargo Distribution, 1993 - 2002

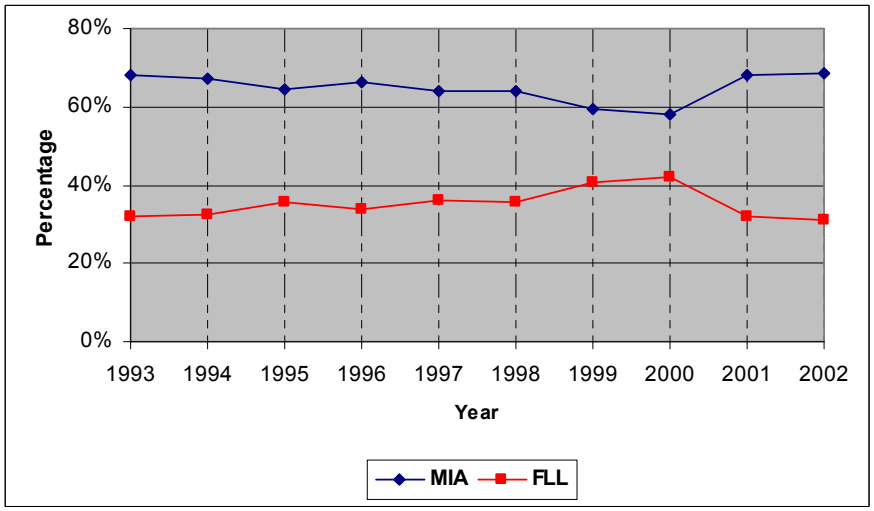


Note: Providence data for 2001 and 2002 were not available.
Sources: ACI Annual Airport Traffic Report and airport websites.

Miami-Ft. Lauderdale Metropolitan Area

Ft. Lauderdale Hollywood International Airport (FLL) has steadily handled between 30-40 percent of the total domestic air cargo traffic in the Miami-Ft Lauderdale metropolitan area. Miami International Airport (MIA) had a drop in the late 90's, but in 2002 it handled 68.7 percent of the regional domestic share, as shown in Exhibit 2-15.

Exhibit 2-15
Miami-Ft. Lauderdale Metropolitan Area
Domestic Air Cargo Distribution, 1993 - 2002



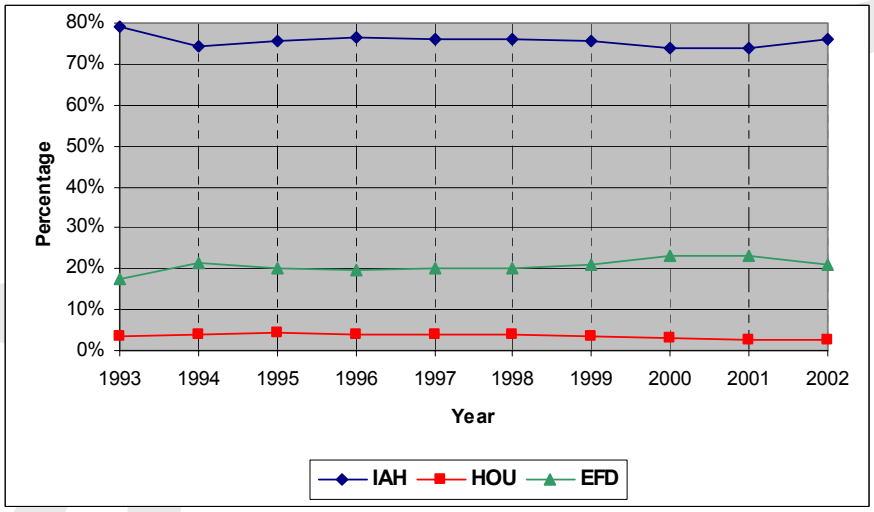
Sources: ACI Annual Airport Traffic Report and airport websites.

Houston Metropolitan Area

Ellington Field (EFD), a corporate aviation airport in the Houston area, transported about 20 percent of the total regional air cargo activity from 1993 to 2002 (see Exhibit

2-16). Hobby Airport (HOU), primarily a low-cost carrier airport, ships about 3 percent of the overall Houston air cargo traffic. However, UPS moved its cargo operation from Ellington to George Bush Intercontinental (IAD) in late 2002; therefore, Ellington did not have any air cargo activity in 2003. Data from 2003 was not included in the chart because the tables available on the Houston Department of Aviation website did not split domestic and international traffic.

Exhibit 2-16
Houston Metropolitan Area
Domestic Air Cargo Distribution, 1993- 2002

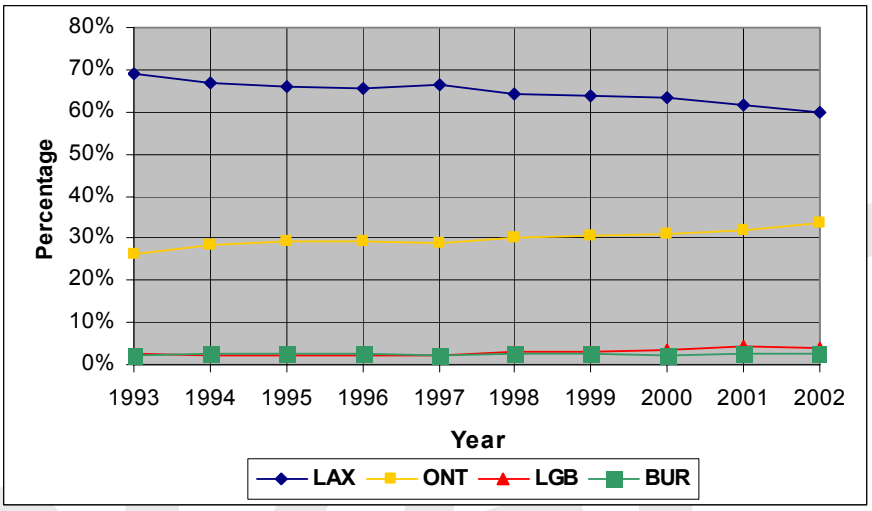


Sources: ACI Annual Airport Traffic Report and airport websites.

Los Angeles Metropolitan Area

Ontario International Airport (ONT) has consistently carried about 30 percent of the regional air cargo activity while Long Beach Airport (LGB) and Bob Hope Airport (BUR) have handled between 2 and 4 percent each (see Exhibit 2-17). Los Angeles International Airport's (LAX) domestic share has steadily declined from 70 to 60 percent during the ten-year period.

Exhibit 2-17
Los Angeles Metropolitan Area
Domestic Air Cargo Distribution, 1993 - 2002

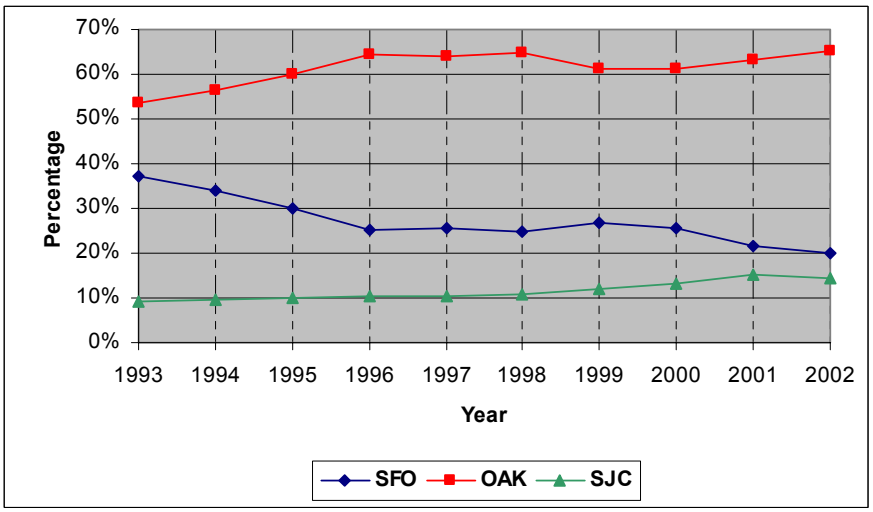


Sources: ACI Annual Airport Traffic Report and airport websites.

San Francisco Metropolitan Area

In the case of the San Francisco-Oakland-San Jose area, Oakland International Airport (OAK) is the primary domestic cargo airport in the region transporting more than 60 percent of the total activity, even though San Francisco International Airport (SFO) is the busiest passenger airport in the region (see Exhibit 2-18). Mineta San Jose International Airport (SJC) has increased its regional share from 9 percent to 14 percent in the evaluated period. SFO cargo share has dropped in the last few years from 37 percent in 1993 to 20 percent in 2002. SFO is a landlocked airport with major airside, landside and ground access capacity constraints. Therefore, OAK has become a more attractive facility for air cargo operators since it has fewer constraints.

Exhibit 2-18
San Francisco Metropolitan Area
Domestic Air Cargo Distribution, 1993 - 2002



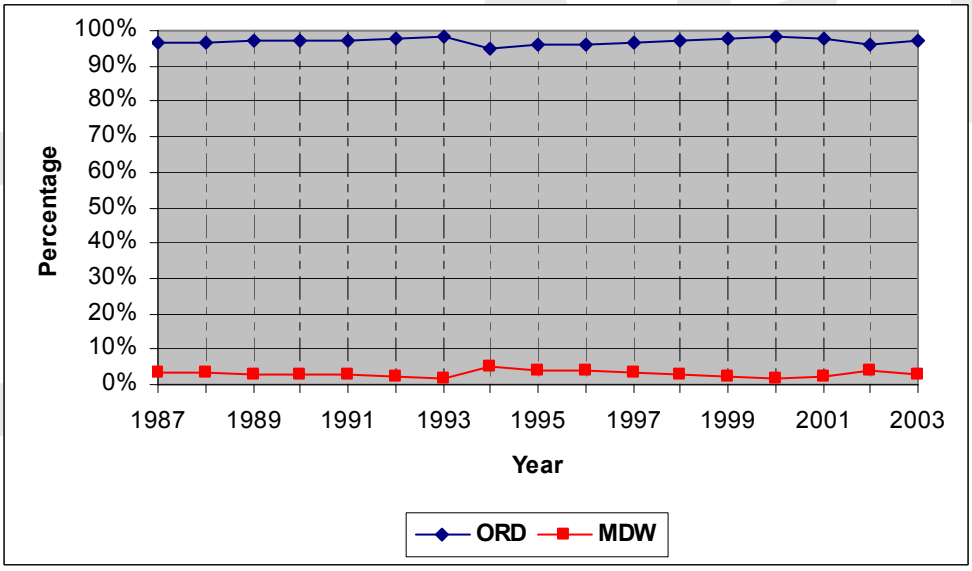
Sources: ACI Annual Airport Traffic Report and airport websites.

IDOT believes that the O'Hare/SSA relationship is most analogous with the LAX/ONT and SFO/OAK relationships.

Chicago Region

Two airports have historically carried the Origin/Destination freight of the Chicago area. However, O'Hare (ORD) has transported the bulk of the cargo with Midway (MDW) only accounting for 2 to 4 percent of the regional domestic cargo, as shown in Exhibit 2-19. MDW's domestic share in 2003 was 2.9 percent of the region. Cargo at MDW is carried in the belly of passenger aircraft; hence limiting potential cargo growth in the future.

Exhibit 2-19
Chicago Metropolitan Area
Domestic Air Cargo Distribution, 1987 - 2003



Source: Chicago Department of Aviation Annual Statistics.

IAP Domestic Air Cargo Forecasts

Comparing the current situation in Chicago with the other multi-airport systems in the United States, supplemental airports in those metropolitan areas have transported a larger share of the regional activity. Based on the five multi-airport systems analyzed above, IDOT has made the following forecast assumptions for domestic air cargo activity:

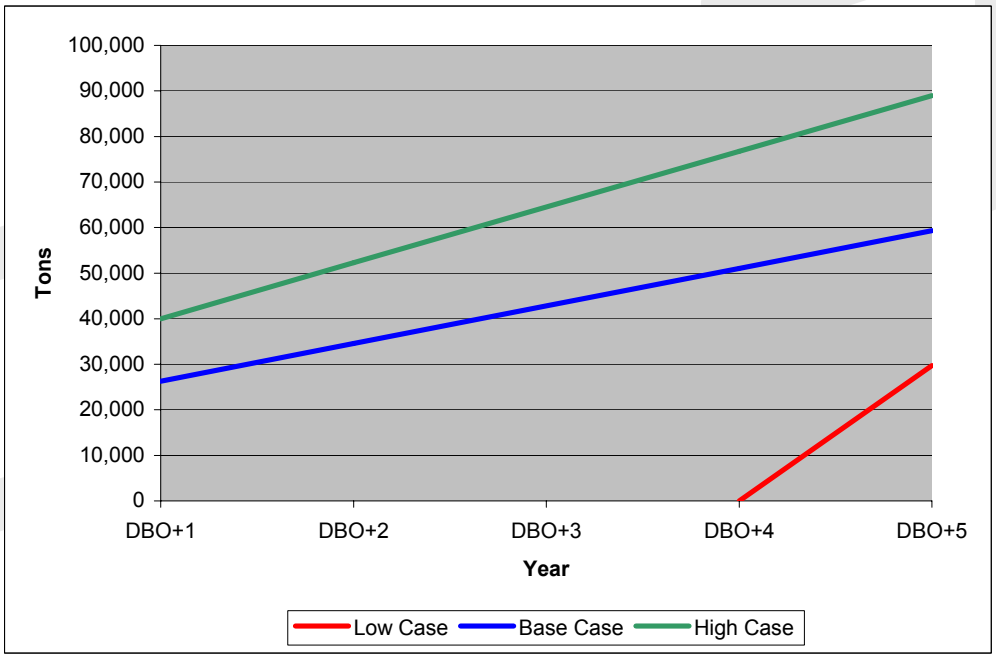
- Low Case Scenario: No cargo activity until DBO+5, then accounting for 2 percent of the total regional market.
- Base Case Scenario: Starting with 2 percent at DBO+1, then going to 4 percent at DBO+ 5.
- High Case Scenario: Starting with 3 percent at DBO+1, then going to 6 percent at DBO+5.

Table 2-21 and Exhibit 2-20 depict the projected domestic air cargo demand for the three scenarios from DBO+1 to DBO+5.

Table 2-21 IAP Domestic Air Cargo Activity in Short Tons		
Forecast Scenario	**DBO+1**	**DBO+5**
Low Case	0	29,700
Base Case	26,300	59,300
High Case	40,000	89,000

Source: TAMS, an Earth Tech Company, 2004.

Exhibit 2-20
South Suburban Airport
IAP Domestic Air Cargo Activity Forecast



Source: TAMS, an Earth Tech Company, 2004.

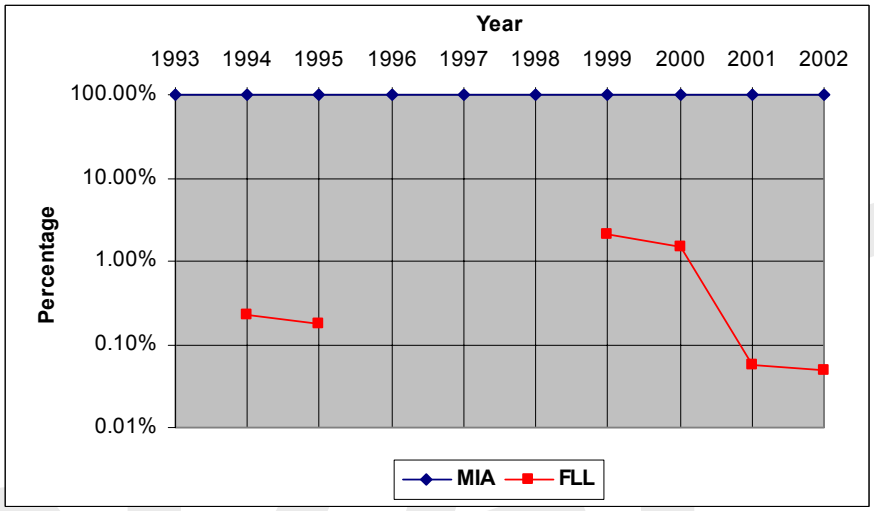
International Air Cargo Traffic Analysis

The historic international air cargo data for the five metropolitan areas has a totally different pattern. The main air carrier airports in the five regions examined for domestic air cargo have carried the bulk of international air cargo. The comparison exhibits presented in this section are in a **logarithmic scale** in order to better perceive the low level of activity at the supplemental airports. The Boston metropolitan area is not discussed in this section because Logan transported all the regional international air cargo in the evaluated period.

Miami-Ft. Lauderdale Metropolitan Area

Ft. Lauderdale has had intermittent international cargo activity during the ten-year period, reaching a peak of 2.2 percent in 1999, but dropping to 0.05 percent in 2002, as shown in Exhibit 2-21.

Exhibit 2-21
Miami-Ft. Lauderdale Metropolitan Area
International Air Cargo Distribution, 1993 - 2002

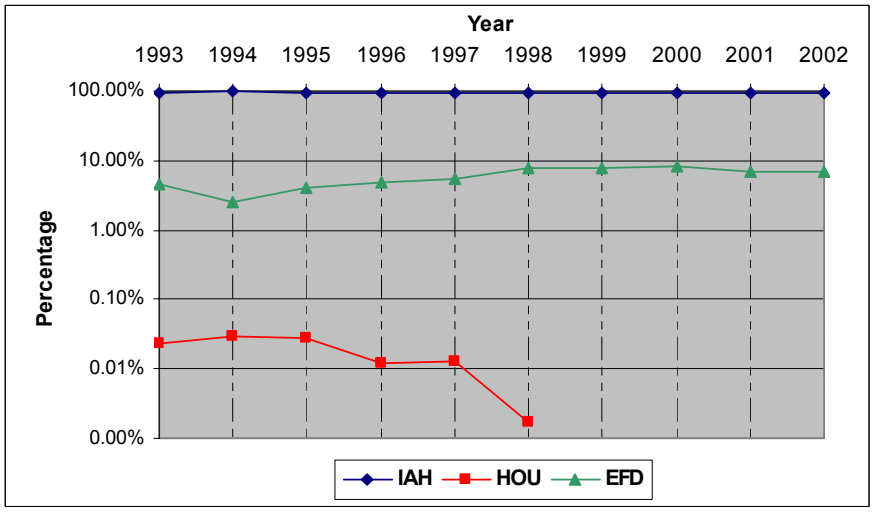


Sources: ACI Annual Airport Traffic Report and airport websites.

Houston Metropolitan Area

Ellington (EFD) carried between 6.8 to 8.3 percent of the annual Houston international air cargo from 1998 to 2002, a significant share of the regional activity (see Exhibit 2-22). However, the airport is not currently providing cargo service anymore since UPS transferred its air operations to George Bush Intercontinental in 2002.

Exhibit 2-22
Houston Metropolitan Area
International Air Cargo Distribution, 1993 – 2002



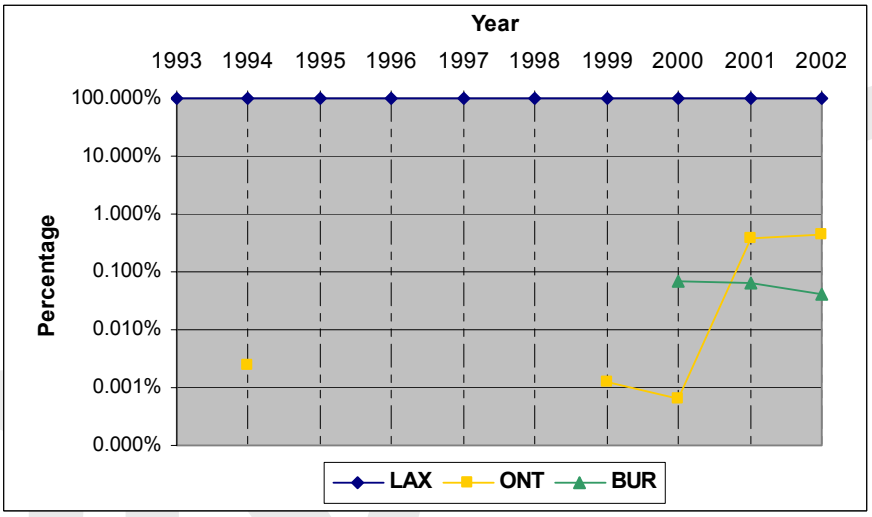
Sources: ACI Annual Airport Traffic Report and airport websites.

Los Angeles Metropolitan Area

Ontario started having some international air cargo in 1999, and its share has increased to 0.45 percent in 2002, as shown in Exhibit 2-23. Preliminary traffic figures for 2003 from Los Angeles World Airports show that international air cargo

activity at ONT went from 4,300 short tons in 2002 to 10,281. BUR transported 0.07 percent and 0.04 percent of the regional international air cargo traffic in 2000 and 2002, respectively.

Exhibit 2-23
Los Angeles Metropolitan Area
International Air Cargo Distribution, 1993 - 2002

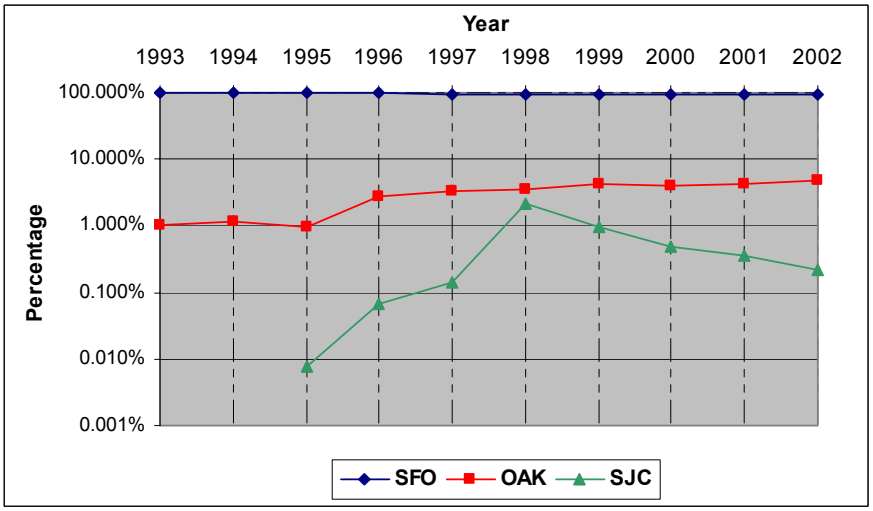


Sources: ACI Annual Airport Traffic Report and airport websites.

San Francisco Metropolitan Area

Oakland has had an upward trend in international air cargo during the evaluated period going from 1.0 percent in 1993 to 4.8 percent in 2002 (see Exhibit 2-24). San Jose has shown a scattered pattern with the highest activity level in 1998, when its international air cargo share reached 2.1 percent, but its share in 2002 was only 0.21 percent.

Exhibit 2-24
San Francisco Metropolitan Area
International Air Cargo Distribution, 1993 - 2002



Sources: ACI Annual Airport Traffic Report and airport websites.

Chicago Region

Similar to the other supplemental airports discussed, Midway has handled little international air cargo except during a few years, with 2003 representing only 0.02 percent of the traffic for the region. Midway has very limited scheduled international passenger air carrier activity, which is not expected to significantly increase in the future since the existing runway lengths prohibit long-range flights.

IAP International Air Cargo Forecasts

The potential for international air cargo activity exists at SSA, as shown in the case studies of the Houston, Los Angeles and San Francisco metropolitan areas where more than one airport provides international air cargo service. It is important to point out that Ellington Field in Houston does not have commercial passenger service, but still handled a significant share of the total Houston international air cargo activity. Currently, in the greater Chicago metropolitan area, O'Hare handles nearly all of the international air cargo activity. Based on the four multi-airport systems analyzed above, IDOT has made the following forecast assumptions for international air cargo activity:

- Low Case Scenario: No international air cargo activity during the IAP.
- Base Case Scenario: Two percent at DBO+5.
- High Case Scenario: Starting with 2 percent at DBO+2, then going to 5 percent at DBO+5.

Table 2-22 depicts the projected international air cargo forecast for the three scenarios.

Table 2-22
IAP International Air Cargo Activity in Short Tons

Forecast Scenario	DBO+1	DBO+5
Low Case	0	0
Base case	0	34,900
High Case	28,200	88,000

Source: TAMS, an Earth Tech Company, 2004.

The estimated shares of international air cargo activity at SSA seem reasonable compared to the multi-airport metropolitan areas discussed above. As already discussed, several supplemental airports have transported at least 15 percent of their respective regional domestic cargo. Therefore, the assumed SSA domestic figures for the evaluated period could be considered conservative.

The international air cargo traffic analysis shows that in the Houston, Los Angeles, San Francisco and Miami – Ft. Lauderdale metropolitan areas, supplemental airports have carried some air cargo activity. The most active airports have been Ellington Field and Oakland International Airport, which moved 6.9 percent and 4.8 percent, respectively in 2002. Even though EFD does not handle air cargo traffic anymore, it still provides a good benchmark for the ten–year period that was analyzed. Regardless, these examples show that the proposed international air cargo tons could be realized at SSA.

Potential Cargo Aircraft Fleet Mix

As part of the aviation forecast, L.E.K. Consulting prepared an analysis of the potential cargo aircraft fleet mix at SSA. The evaluation determined that in 2002 and 2003, cargo operators rely on B727-200 dedicated freighter aircraft for their operations. However, by the time the Inaugural Airport opens (DBO), it is assumed that most, if not all, B727s will be retired from the U.S. fleet given their age (over 20 years old). At this time, the most likely replacement for the B727 is either converted passenger B737-300 or converted passenger B757-200 aircraft. For example, FedEx announced in July 2003 that it was assessing replacing its entire B727 fleet with either converted B737-300 or B757-200 aircraft and numerous conversion Maintenance, Repair and Overhaul (MRO) shops are offering both B737-300 and B757-200 conversions. The B737-300 appears attractive given the large pool of aircraft in the fleet that are available to be converted to freighters.

Therefore, from DBO to DBO+5 of SSA (i.e., the Inaugural Airport Program), it is assumed that a potential mix of B737-300 and B757-200 dedicated freighter aircraft will carry cargo. An initial cargo load factor of 70 percent was used, since this is roughly the load factor/break even load factor at which numerous dedicated cargo operators function.

Section 8 – Summary of IAP Air Cargo Aviation Activity Forecasts

Table 2-23 summarizes the projected air cargo operations and tonnage at DBO+1 and DBO+5. The IAP cargo forecasts are based on the Chicago regional growth developed by Global Insight for domestic and international air cargo, applying a percentage of the total demand.

It is assumed that during the first five years of operations, all-cargo freighters would primarily handle cargo activity at SSA. The growth rates used for air cargo activity at SSA are based on the latest *FAA Aerospace Forecasts – Fiscal Years 2004-2015*, the *Boeing World Air Cargo Forecast 2002/2003* and assumed potential percentages of the regional demand that could be captured on an annual basis. The payload capacity of all-cargo aircraft assumed in the analysis are similar to those currently used at O'Hare.[145] Instrument operations were assumed to account for 50 percent of total air cargo operations.

[145] City of Chicago, Appendix A, O'Hare Modernization Program – Draft Concept Development Report, February 2003.

Table 2-23
IAP Air Cargo Aviation Activity Forecasts

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+1	*DBO+5*
Scenario "A" – High Case Forecast		
Air Cargo Operations		
Domestic	1,700	3,783
International	902	1,760
Total Air Cargo	2,602	5,543
Air Cargo Instrument	1,301	2,772
Air Cargo Tonnage		
Freight/ Express	56,600	128,500
Mail	6,800	17,700
Belly Freight	11,600	48,600
Total Air Cargo Tonnage	75,000	194,800
Scenario "B" – Base Case Forecast		
Air Cargo Operations		
Domestic	1,118	2,520
International		931
Total Air Cargo	1,118	3,451
Air Cargo Instrument	559	1,726
Air Cargo Tonnage		
Freight/Express	22,400	78,300
Mail	2,600	9,400
Belly Freight	3,900	15,900
Total Air Cargo Tonnage	28,900	103,600
Scenario "C" –Low Case Forecast		
Air Cargo Operations		
Domestic	0	1,262
International	0	0
Total Air Cargo	0	1,262
Air Cargo Instrument	0	631
Air Cargo Tonnage		
Freight/Express	0	25,200
Mail	0	3,000
Belly Freight	0	4,500
Total Air Cargo Tonnage	0	32,700

Source: TAMS, an Earth Tech Company, 2004.

Section 9 – Long-Range Projections of Air Cargo Aviation Activity

Domestic Air Cargo Aviation Activity

IDOT recognizes that it is difficult to accurately estimate long-range aviation forecasts for a new airport. The three-air cargo activity forecast scenarios (low, base and high) for the first five years of operation (discussed in Section 7) were formulated by generating domestic and international air cargo forecasts for the whole Chicago region based on commodities that are normally transported by air, and assuming that SSA would capture a certain percentage of the air cargo activity for the region. The expected air cargo demand at SSA beyond DBO+5 will greatly depend upon:

- Type of airline service that develops at the new facility;
- Airside and landside facilities that are constructed as part of the IAP;
- Ability of SSA to adapt to potential airline and freight forwarder requirements; and
- Vitality of the local and national economy.

IDOT assumes that after DBO+5, the airport could begin to compete with other commercial airports, and that market forces will drive aviation demand at SSA. Based on the five multi-airport systems analyzed in Section 7, IDOT has made the following long-range projection assumptions for domestic air cargo aviation activity:

- Low Case Scenario: At DBO+5, SSA would capture 2 percent of the air cargo activity in the Chicago region, gradually increasing to 4 percent by DBO+20.
- Base Case Scenario: At DBO+5, SSA would capture 4 percent of the air cargo activity in the Chicago region, gradually increasing to 8 percent by DBO+20.
- High Case Scenario: At DBO+5, SSA would capture 6 percent of the air cargo activity in the Chicago region, gradually increasing to 10 percent by DBO+20.

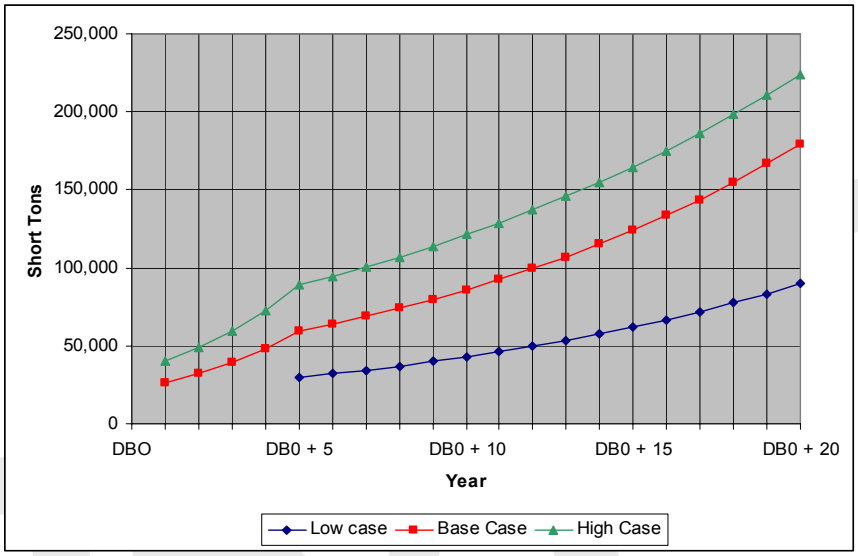
Table 2-24 and Exhibit 2-25 depict the long-range projections for domestic air cargo aviation activity for the three scenarios.

Table 2-24
SSA Domestic Air Cargo Activity in Short Tons
Long-Range Projections

Forecast Scenario	DBO+5	DBO+20
Low Case	29,700	89,700
Base case	59,300	179,400
High Case	89,000	224,200

Source: TAMS, an Earth Tech Company, 2004.

Exhibit 2-25
South Suburban Airport
Domestic Air Cargo Activity Long-Range Projections



International Air Cargo Aviation Activity

Similar to the long-range projections for domestic air cargo activity at SSA, IDOT developed long-range projections for international air cargo activity to establish the potential range of international activity that could occur at SSA in the future. The potential for international air cargo activity exists at SSA, as shown in the case studies of the Houston, Los Angeles and San Francisco metropolitan areas where more than one airport provides international air cargo service. Based on the four multi-airport systems analyzed in Section 7, IDOT has made the following forecast assumptions for international air cargo activity:

- Low Case Scenario: No international air cargo activity until DBO+10, then accounting for 2 percent of the total regional market and increasing to 3 percent by DBO+20.
- Base Case Scenario: Starting with 2 percent at DBO+5 and developing to 6 percent by DBO+20.
- High Case Scenario: Starting with 5 percent at DBO+5 and developing to 10 percent by DBO+20.

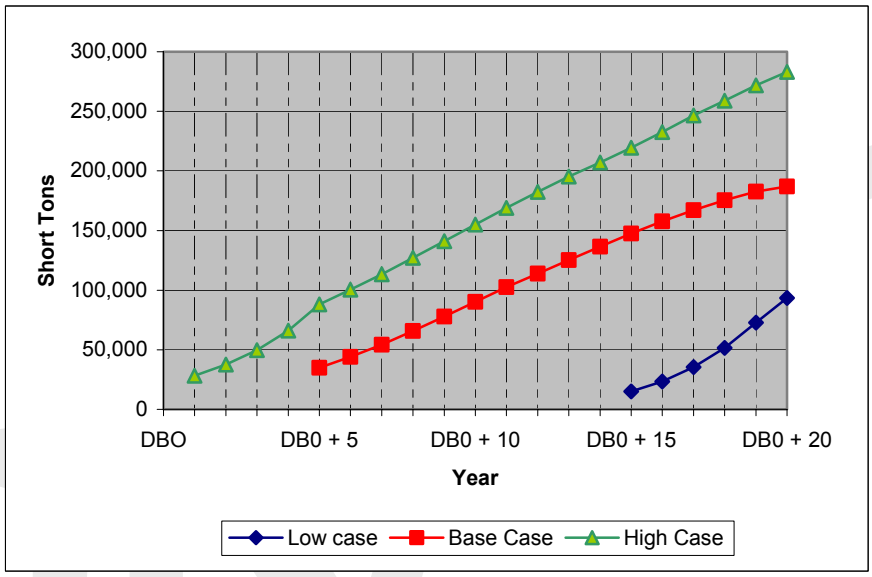
Table 2-25 and Exhibit 2-26 depict the long-range projections for international air cargo for the three scenarios.

Table 2-25
SSA International Air Cargo Activity in Short Tons
Long-Range Projections

Forecast Scenario	DBO+5	DBO+20
Low Case	0	93,400
Base case	34,900	186,800
High Case	88,000	283,000

Source: TAMS, an Earth Tech Company, 2004.

Exhibit 2-26
South Suburban Airport
International Air Cargo Activity Long-Range Projections



Source: TAMS, an Earth Tech Company, 2004.

As passenger operations develop at the airport, belly cargo would account for a greater portion of air cargo activity, but is never forecast to exceed that of all-cargo. The growth rates used for air cargo activity at SSA are based on the latest *FAA Aerospace Forecasts – Fiscal Years 2004-2015*, the *Boeing World Air Cargo Forecast 2002/2003* and assumed potential percentages of the regional demand that could be captured on an annual basis. The payload capacity of all-cargo aircraft assumed in the analysis are similar to those currently used at O'Hare.[146] Instrument operations were assumed to account for 50 percent of total air cargo operations.

After DBO+5, it is assumed that SSA could attract larger cargo operators. The resultant higher volume of cargo flowing through SSA will result in larger more efficient aircraft being operated. In this phase, the analysis indicates that SSA will continue to attract operators with B737-300 and B757-200 aircraft, and would also attract A300B4F, A310-300F, B767-300F, A300-600F aircraft, which are used for higher volume domestic cargo operations.

As the airport matures, the forecasts indicate that SSA will handle increasing amounts of international air cargo operations, which could bring B747-200, DC10-40F, B747-400F, and/or MD11 freighter operations.

[146] City of Chicago, Appendix A, O'Hare Modernization Program – Draft Concept Development Report, February 2003.

Long-Range Projections of Air Cargo Aviation Activity Summary

Table 2-26 summarize the long-range air cargo projections at SSA, including domestic and international activity.

Table 2-26
SSA Air Cargo Aviation Activity Long-Range Projections

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+5	*DBO+20*
Scenario "A" – High Range Projections		
Air Cargo Operations		
Domestic	3,783	6,726
International	1,760	4,043
Total Air Cargo	5,543	10,769
Air Cargo Instrument	2,772	5,385
Air Cargo Tonnage		
Freight/ Express	128,500	276,000
Mail	17,700	50,700
Belly Freight	48,600	231,200
Total Air Cargo Tonnage	194,800	557,900
Scenario "B" – Base Range Projections		
Air Cargo Operations		
Domestic	2,520	5,382
International	931	2,669
Total Air Cargo	3,451	8,051
Air Cargo Instrument	1,726	4,026
Air Cargo Tonnage		
Freight/Express	78,300	201,000
Mail	9,400	36,600
Belly Freight	15,900	165,200
Total Air Cargo Tonnage	103,600	402,800
Scenario "C" –Low Range Projections		
Air Cargo Operations		
Domestic	1,262	3,140
International	0	1,601
Total Air Cargo	1,262	4,741
Air Cargo Instrument	631	2,371
Air Cargo Tonnage		
Freight/Express	25,200	118,800
Mail	3,000	18,300
Belly Freight	4,500	64,300
Total Air Cargo Tonnage	32,700	201,400

Source: TAMS, an Earth Tech Company, 2004.

Chapter 3 – General Aviation/Corporate Aviation Forecast

Section 1 - Overview of General Aviation/Corporate Aviation Forecast Methodology

General Aviation (GA) is defined as that portion of Civil Aviation that encompasses all facets of aeronautical activity except for those carriers certified by the Department of Transportation to provide commercial passenger and air cargo service. General Aviation activities include, but are not limited to, business flights, student pilot and advanced pilot flight training, soaring, aerial application (crop duster) flights, cross country, aerial mapping, weather modifications, pipe line and power line patrols, air ambulance flights and other flights that do not come under air carrier qualifications. Corporate Aviation typically offers executive air charter services, and/or provides services to companies that own or operate general aviation aircraft as an aid to the conduct of their business. Corporate Aviation facilities include, at a minimum, a 5,000-foot runway and a precision instrument approach procedure. The types of GA aircraft vary from small, single-engine fixed wing aircraft to helicopters and multi-engine piston or turbine powered planes.

In 1999, the Illinois Department of Transportation undertook a study to determine what initial or inaugural airfield facilities might be necessary on Date of Beneficial Occupancy (DBO) of the South Suburban Airport.[147] This study identified an area, known as the Inaugural Airport, within the boundaries established for the SSA ultimate footprint. The construction and operation of an airport at the IAP site would impact existing general aviation and corporate aviation facilities in the area. The IAP development could potentially require the closure of certain general aviation facilities, bring about the relocation of general aviation aircraft operations, introduce potential new airspace procedures and provide new facilities for corporate aviation that presently do not exist in the area. The Inaugural Airport Program does include development areas for both general aviation and corporate aviation facilities. This chapter will forecast demand levels for both aeronautical facets.

Section 2 - Discussion of General Aviation/Corporate Aviation Facilities within the Inaugural Airport Program Area

Development and operation of the Inaugural Airport Program could impact certain general aviation facilities in central and eastern Will County. There are no corporate aviation facilities in the Inaugural Airport Program Area. The following section describes GA facilities within the IAP area and Table 3-1 includes a summary of those aeronautical services.

Sanger Airport (C56) is a *privately owned, open-to-the public facility*, located approximately 1.1 miles north of the Inaugural Airport Program's Airport Reference Point (ARP) and 4 miles southeast of the Village of Monee. Sanger is a non-towered facility and its hours of operations are from "dawn-to dusk". Sanger Airport has two visual runways each with an asphalt surface.[148] Runway 09-27 is 2,412 feet long and 32 feet wide with a 375-foot displaced threshold on the Runway 09 end. Runway 05-23 is 2,313 feet long and 32 feet wide. The Runway 23 end has a 200-foot displaced threshold. According to the 2003 FAA Form 5010, Sanger had 34-based aircraft: 31 single-engine aircraft, 2 multi-engine airplanes and 1 ultralight aircraft. FAA statistics[149] indicate that Sanger had 13,000 operations in 2002. The FAA Terminal Area Forecast (TAF) does not project any operational increase at Sanger through 2020. Sixty–nine percent of activity at Sanger is represented by local general aviation and thirty percent is itinerant general aviation. Less than one percent was recorded as air taxi in 2002.

[147] TAMS Consultants, Inc., South Suburban Airport, Inaugural Airport, 1999.
[148] FAA, Form 5010, Airport Master Record, Sanger, December 2003.
[149] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.

Table 3-1
Summary of General Aviation/Corporate Aviation Facilities within the Inaugural Airport Program Area

Airport Name (XXX)[1]	ARP* (mi.)	Runway(s)		Based Aircraft				Aeronautical Operations
		Orientation	Dimensions	SE	ME	Turbine	Other	
Sanger (134)	1.1 mi.	09-27	2,412' x 32'†	31	2	0	1‡	13,000
		05-23	2,313' x 32'					

Source: FAA, Form 5010, Airport Master Record, Sanger, December 2003.
SE = Single-Engine; ME = Multi-Engine
*Distance To South Suburban Airport's Ultimate Airport Reference Point (ARP).
[1]Identifier Number on Exhibit 3-1.
‡ Ultralight Aircraft
† Asphalt/Turf Runway

The Illinois Department of Transportation has certain monies allotted for the acquisition of land within the IAP area. Since Sanger is within the Inaugural Airport Program area, it is subject to acquisition. Due to the future transformation of the airfield site, the based and transient aircraft operations presently underway at Sanger, will be included in future general aviation and corporate aviation forecasts for the South Suburban Airport.

Section 3 - Discussion of General Aviation/Corporate Aviation Facilities Outside the IAP Area and within the South Suburban Region

Chapter 3, Section 2 identified those general aviation and corporate aviation facilities within the Inaugural Airport Program area. This section will describe the operational characteristics and status of those privately owned, private-use airfields impacted by the ultimate SSA boundary and all open-to-the-public general aviation and corporate aviation facilities that are outside of the IAP area but within the South Suburban Region. For purposes of this study, the South Suburban Region is *broadly identified* as that area south of Illinois Route 7/US Route 6 through Will and Cook Counties in Illinois and Interstate 80 in Lake and Porter Counties in Indiana. The South Suburban Region and the airfields discussed in this section are depicted in Exhibit 3-1. The area of consideration is limited to a 25-mile radius from the South Suburban Airport's Reference Point (ARP).

There is one aeronautical facility outside of the Inaugural Airport Program area but within the ultimate footprint for the South Suburban Airport. These facilities are described herein and are summarized in Table 3-2.

Robert Norman (89LL) is a *privately owned, private-use* airport, located approximately 1.6 miles south of the Inaugural Airport Reference Point (ARP) and about 3 miles northeast of the Village of Peotone. The existing runway (09-27) is a 2,500-foot long, 100-foot wide, turf surfaced, visual runway.[150] There was 1-based aircraft at Norman Airport in 2003, according to the 2003 FAA 5010 Form.

[150] FAA, Form 5010, Airport Master Record, Norman, December 2003.

Exhibit 3-1
Airports within 25 miles of SSA Site

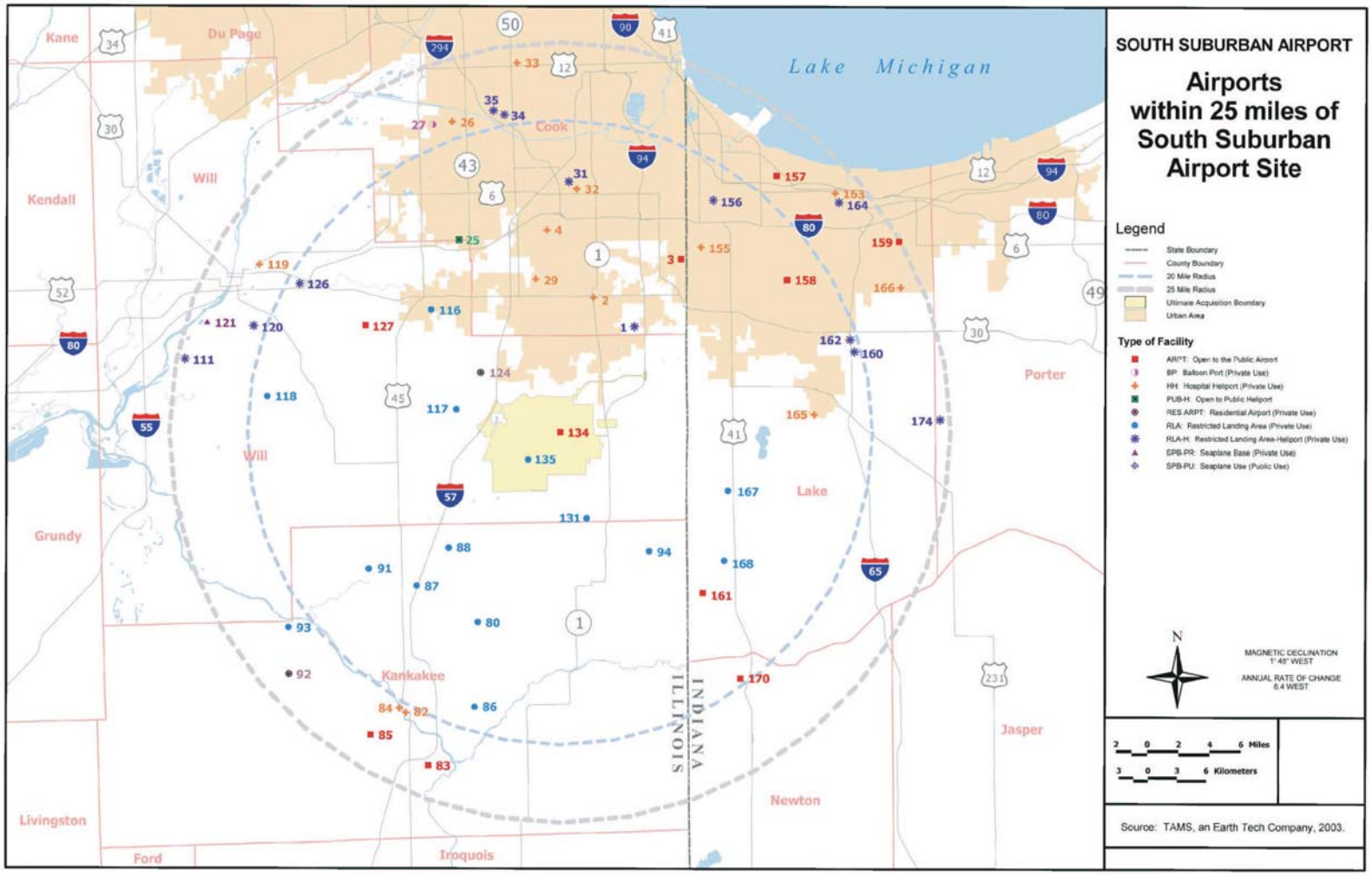


Table 3-2
Summary of General Aviation/Corporate Aviation Facilities Outside the IAP Area and within the South Suburban Region, 2003

Airport Name (XXX)[1]	ARP* (mi.)	Runway(s)		Based Aircraft				Aeronautical Operations
		Orientation	Dimensions	SE	ME	Turbine	Other	
Robert Norman (135)	1.6	09-27†	2,500' x 100'	1	0	0		400[2]
Richard Brandt (88)	9.1	18-36†	2,200' x 70'	1	0	0		400[2]
Meadow Creek (124)	5.7	04-22	3,400' x 40'	5	0	0		2,000[2]
Craig Mussman (94)	9.2	09-27†	2,275' x 75'	3	0	0	1‡	2,000[2]
Von Alvens Airview (131)	5.8	18-36†	1,900' x 60'	1	0	0	1‡	800[2]
Hershel Wix (117)	6.2	18-36†	2,600' x 105'	1	0	0		400[2]
Benoit Airport (86)	18	18-36†	2,000' x 105'	3	0	0		1,200[2]
Classic Landings (92)	23	10-28†	2,600' x 70'	0	0	0		Unknown
Frankfort Airport (116)	10	09-27	4,203' x 50'	23	1	0		22,000
Richard Hawker (93)	21	09-27†	1,300' x 100'	1	0	0		400[2]
Pat Neiner (91)	15	18-36†	1,940' x 70'	0	0	0		Unknown
Robert Spangler (87)	13	03-21†	2,200' x 200'	4	0	0		1,600[2]
Sunset Acres (80)	13	09-27†	2,640' x 70'	1	0	0	1‡	800[2]
Sutton's Field (167)	11	01-19†	1,400' x 100'	1	1	0		800[2]
Sweedler Airport (118)	19	18-36†	2,600' x 135'	1	1	0		800[2]
Wietbrock (168)	13	09-27†	2,800' x 100'	1	0	0		400[2]
Gary/Chicago Regional (157)	23	12-30	7,000' x 150'	61	23	19	10	50,771
		02-20	3,603' x 100'					
Greater Kankakee (83)	24	04-22	5,979' x 100'	95	28	3	1 + 5‡	60,000
		16-34	4,399' x 75'					
Griffith – Merrillville (158)	18	08-26	4,013' x 50'	40	12	1	8 + 2‡	21,590
Koerner Kankakee (85)	25	09-27†	2,644' x 300'	22	0	0	2‡	11,000
		18-36†	2,564' x 200'					
Howell - New Lenox (127)	15	13-31	2,877' x 50'	60	2	0	1	30,000[3]
		05-23	2,362' x 50'					
Lansing Municipal (3)	15	09-27	3,646' x 75'	165	15	3	4 + 2‡	65,000
		18-36	4,002' x 75'					
Lake Village (170)	20	18-36†	2,480' x 150'	9	0	0	4‡	3,924
Lowell (161)	14	18-36†	3,041' x 100'	8	0	0	0	2,940

Source: FAA, Form 5010, Airport Master Records, 2003; FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
SE = Single-engine; ME = Multi-engine
Note: Distance To South Suburban Airport's Ultimate Reference Point (ARP).
[1] Identifier Number on Exhibit 3-1.
[2] Estimated number of operations, 400 per based aircraft.
[3] Operations in 2002, *Airport Inventory Report, 2002*, IDOT.
† Turf Runway; ‡ Ultralight Aircraft

There are also 15 privately owned, private-use facilities located within a 25-mile radius of the South Suburban Airport ARP. These facilities are discussed below and summarized in Table 3-2.

Richard Brandt Airport (55IL) is a *privately owned, private-use* facility located approximately 9.1 miles southwest of the IAP boundary and about 5 miles from the Ultimate Airport Acquisition area. The existing runway (18-36) is visual, turf-surfaced, 2,200 feet long and 70 feet wide. There was 1-based aircraft at Brandt Airport in 2003.[151]

Meadow Creek (2IL9) is a *privately owned, private-use* facility located approximately 5.7 miles northwest of the Inaugural ARP and one-mile west of the Village of Monee. The existing runway is a 3,400-foot long, 40-foot wide, asphalt surface, visual runway. There were 5-based single-engine aircraft at Meadow Creek in 2003.[152]

Craig Mussman Airport (7IL0) is a *privately owned, private-use* airport located approximately 9.2 miles southeast of the IAP and approximately 3 miles north of Grant Park, Illinois. It has a visual Runway 09-27 with a turf surface, which is 2,275 feet long and 75 feet wide. There were 4-based aircraft at Mussman Airport in 2003.[153]

Von Alvens Airview Airport (Il 29) is a *privately owned, private-use* facility, located 5.8 miles southeast of the IAP boundary and 3 miles southwest of the Village of Beecher. The airport has a turf runway, 1,900 feet long and 60 feet wide, and contains 2-based aircraft.[154]

Hershel Wix Airport (03IL) is a *privately owned, private-use* airport, located approximately 6.2 miles northeast of the IAP boundary and about 6 miles southwest of the Village of Monee. There is a 2,600-foot long, 105-foot wide, turf surface, visual runway. There was 1-based aircraft at Wix in 2003.[155]

Benoit Airport (IL78) is a *privately owned, private-use* airport, located approximately 18 miles south-southwest of the IAP boundary. The airport has a single, visual, turf runway, 2,000 feet long by 105 feet wide. There were 3-based aircraft at Benoit in 2003.[156]

Classic Landings Airport (05IL) is a *privately owned, private-use* airport, located approximately 23 miles southwest of the IAP boundary. This airport contains a single, visual, turf runway that is 2,600 feet long and 70 feet wide. This is a residential airpark; no information on based aircraft at this facility was available.[157]

Frankfort Airport (C18) is a *privately owned, private-use* facility located approximately 10 miles northwest of the ARP and about 1-mile southeast of the Village of Frankfort. The existing runway (9-27) is non-precision, with an asphalt surface, 4,203 feet long and 50 feet wide. Frankfort had 24-based aircraft in 2003: 23 single-engine and 1 multi-engine airplane.[158] The TAF indicates that in 2002 there were 22,000 operations recorded at Frankfort and anticipates no increase in the level of operations through 2020.[159] The operational statistics for this airport indicate that 45 percent of the activity at Frankfort is local GA, 41 percent is itinerant GA and 14 percent is air taxi activity. In 2002, the use changed from a public-use facility to a private-use facility.[160]

[151] FAA, Form 5010, Airport Master Record, Brandt, December 2003.
[152] FAA, Form 5010, Airport Master Record, Meadow Creek, December 2003.
[153] FAA, Form 5010, Airport Master Record, Mussman, December 2003.
[154] FAA, Form 5010, Airport Master Record, Von Alvens Airview, December 2003.
[155] FAA, Form 5010, Airport Master Record, Wix, December 2003.
[156] FAA, Form 5010, Airport Master Record, Benoit, December 2003.
[157] FAA, Form 5010, Airport Master Record, Classic Landings, December 2003.
[158] FAA, Form 5010, Airport Master Record, Frankfort, December 2003.
[159] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
[160] Division of Aeronautics, Illinois Department of Transportation, 2003.

Hawker Airport (12IL) is a *privately owned, private-use* airport located approximately 21 miles southwest of the IAP boundary. Hawker Airport has one visual, turf runway, 1,300 feet long by 100 feet wide. There is one-based aircraft at this facility.[161]

Neiner Airport (19LL) is a *privately owned, private-use* airport located approximately 15 miles southwest of the IAP boundary. This airport has one visual, turf runway that is 1,940 feet long and 70 feet wide. No information on based aircraft for this facility was available.[162]

Spangler Airport (58IL) is a *privately owned, private-use* airport located approximately 13 miles southwest of the IAP boundary. Spangler Airport has a single visual, turf runway, 2,200 feet long by 200 feet wide. There are 4-based aircraft located at this airport.[163]

Sunset Acres Airport (LL24) is a *privately owned, private-use* airport located approximately 13 miles south of the IAP boundary. This airport has a single visual, turf runway, which is 2,640 feet long and 70 feet wide. There are 2-based aircraft at this facility, a single-engine airplane and a glider.[164]

Sutton's Field (0II8) is a *privately owned, private-use* airport located approximately 11 miles east-southeast of the IAP boundary. The airport has a single visual, turf runway that is 1,400 feet long and 100 feet wide. The airport had 2-based aircraft in 2003.[165]

Sweedler Airport (3IL2) is a *privately owned, private-use* airport located approximately 19 miles west of the IAP area. The airport has a single visual, turf runway that is 2,600 feet long by 135 feet wide. This airport had 2-based aircraft in 2003.[166]

Wietbrock (IN90) is a *privately owned, private-use* airport located approximately 13 miles southeast of the IAP area. Wietbrock contains a single, visual, turf runway, 2,800 feet long by 100 feet wide. There is one single-engine aircraft based at this airport.

There are eight airports open to the public outside of the SSA Boundary but located within the South Suburban Region. These facilities are discussed herein.

Gary/Chicago International Airport (GYY) is a *publicly owned, open-to-the-public* airport, located approximately 23 miles northeast of the SSA Ultimate Acquisition Area. Gary/Chicago has intermittent commercial service and a contract Air Traffic Control Tower. There are two active runways at GYY: Runway 12-30 is 7,000 feet long and 150 feet wide. Runway 12 has a non-precision approach, while Runway 30 has a precision instrument approach system. Runway 02-20 is a non-precision runway, 3,603 feet long and 100 feet wide. According to FAA 5010 Form, there were 113 aircraft based at the airport in 2003: 61 single-engine, 23 multi-engine, 19 jets, and 10 helicopters.[167] GYY had 50,771 GA operations in 2002.[168] TAF estimations indicate that the operational level will increase to 51,192 operations in 2010 and 55,952 operations in 2020. Approximately 42 percent of GA activity at GYY is itinerant, 52 percent local activity, 1 percent military and 3 percent air taxi.

[161] FAA, Form 5010, Airport Master Record, Hawker, December 2003.
[162] FAA, Form 5010, Airport Master Record, Neiner, December 2003.
[163] FAA, Form 5010, Airport Master Record, Spangler, December 2003.
[164] FAA, Form 5010, Airport Master Record, Sunset Acres, December 2003.
[165] FAA, Form 5010, Airport Master Record, Sutton's Field, December 2003.
[166] FAA, Form 5010, Airport Master Record, Sweedler, December 2003.
[167] FAA, Form 5010, Airport Master Record, Gary/Chicago International, December 2003.
[168] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.

Greater Kankakee Airport (IKK) is *publicly owned, open to the public* and is located about 24 miles southwest of the SSA Ultimate Acquisition Area and 3 miles south of Kankakee, Illinois. The non-towered airport has two operational runways. Runway 04-22 is asphalt-surfaced, 5,979 feet long and 100 feet wide and has a precision approach on Runway 04 and non-precision on Runway 22; Runway 16-34 is also asphalt-surfaced, 4,399 feet long and 75 feet wide with visual approaches at both ends. There were 132-based aircraft at IKK in 2003: 95 single-engine airplanes, 28 multi-engine, 3 jets, 1 helicopter, and 5 ultralight aircraft.[169] Fifty percent of the operations conducted at IKK are local operations, 43 percent itinerant, 5 percent military and 2 percent air taxi operations. The TAF indicated that in 2002 there were 60,000 operations at IKK and this level is expected to remain constant through 2020.[170]

Griffith-Merrillville (05C) is *privately owned, open to the public* and is located approximately 18 miles northeast of the SSA Ultimate Acquisition Area. Griffith has one visual runway, which is asphalt-surfaced, 4,013 feet long and 75 feet wide. There were 63-based aircraft at Griffith in 2003: 40 single-engine planes, 12 multi-engines, 1 jet, 8 helicopters and 2 glider planes.[171] The TAF indicated that Griffith recorded 36,461 operations in 2002, and this level of activity is expected to remain constant through 2020.[172] Approximately 54 percent of Griffith's activity is itinerant operations, 44 percent is local aviation activity and 2 percent is air taxi.

Kankakee Airport (3KK) is *privately owned, open to the public* and is located approximately 25 miles southwest of the future SSA Ultimate Acquisition Area. The airport has two active runways: Runway 09-27 is 2,644 feet long and 300 feet wide, turf-surfaced; Runway 18-36 is turf-surfaced, 2,564 feet long and 200 feet-wide. There were 24 aircraft based at the airport in 2003: 22 single-engine airplanes and 2 ultralight aircraft.[173] The activity at Kankakee airport is mostly represented by local GA activity (82 percent) and itinerant GA operations (18 percent).

Howell-New Lenox Airport (1C2) is a *privately owned, open-to-the-public airport*, located approximately 15 miles northwest of SSA and 3 miles southeast of New Lenox. This is a non-towered facility. There are two visual runways at this airport. Runway 13-31 has an asphalt surface and is 2,877 feet long and 50 feet wide. Runway 05-23 is also asphalt-surfaced; it is 2,362 feet long and 50 feet wide. There were 63-based aircraft at New Lenox in 2003: 60 single-engine airplanes, 2 multi-engine planes and 1 helicopter.[174] New Lenox recorded approximately 30,000 operations in 2000.[175] Seventy percent of activity at this airport is local general aviation, 30 percent is itinerant general aviation, and less than 1 percent is military. Currently the TAF does not indicate any activity projections for Howell-New Lenox[176] and the future status of the airport is questionable.

Lansing Municipal Airport (IGQ) is a *publicly owned, open-to-the-public* airport located approximately 15 miles northeast of the Ultimate SSA Acquisition Area. Lansing has two operational runways. Runway 09-27 is a visual 3,646 feet long and 75 feet wide, with an asphalt surface. Runway 18-36 is a visual 4,002 feet long and 75 feet wide, with an asphalt surface. There were 189-based aircraft at Lansing in 2003: 165 single-engine, 15 multi-engine, 3 jet aircraft, 4 helicopters and 2 ultralight aircraft.[177] The TAF indicated that in 2002 Lansing recorded 65,000 operations and the FAA anticipates that this level of operations will not increase through 2020.[178]

[169] FAA, Form 5010, Airport Master Record, Greater Kankakee, December 2003.
[170] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
[171] FAA, Form 5010, Airport Master Record, Griffith-Merrillville, December 2003.
[172] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
[173] FAA, Form 5010, Airport Master Record, Kankakee, December 2003.
[174] FAA, Form 5010, Airport Master Record, Howell-New Lenox, December 2003.
[175] Illinois Department of Transportation, "Airport Inventory Report, 2002", 2002.
[176] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
[177] FAA, Form 5010, Airport Master Record, Lansing Muni, December 2003.
[178] FAA, Terminal Area Forecasts, Fiscal Years 2002-2020, April 2003.

Forty-nine percent of activity at Lansing is represented by local GA activity, 43 percent is itinerant GA aviation and 8 percent air taxi activity.

Lake Village Airport (C98) is a *privately owned, open to the public* airport located approximately 20 miles southeast of the IAP boundary. Lake Village has one visual, turf runway that is 2,480 feet long and 150 feet wide. There are 13-based aircraft at this airport: 9 single-engine and 4 gliders.[179] The TAF stated that there were 3,924 operations in 2002, 67 percent of which were local GA and 33 percent itinerant.[180] The TAF does not anticipate any increase in activity through 2020.

Lowell Airport (C97) is a *privately owned, open to the public* airport located approximately 14 miles southeast of the IAP boundary. Lowell has one visual, turf runway that is 3,041 feet long and 100 feet wide. There are 8 single-engine based aircraft.[181] The 2002 TAF listed 3,052 operations at Lowell in 2002; 88 percent of the activity is local GA with itinerant operations making up the remainder.[182] FAA's 2003 TAF does not indicate any activity projections for Lowell Airport.[183].

All of these facilities are located within a 25-mile radius of the proposed SSA Airport Reference Point. The location of each facility in reference to the proposed SSA ARF is shown on Exhibit 3-1.

Section 4 - Introduction of New General Aviation/Corporate Aviation Facilities to Access Central and Eastern Will County

Corporate Aviation facilities for purposes of this discussion include, at a minimum, a 5,000-foot runway and a precision instrument approach procedure, capable of accommodating a mid-size corporate jet such as a Citation III. Currently, the only airports within a 25-mile radius of SSA that have a 5,000-foot runway are Gary/Chicago International and Greater Kankakee Airports. Both also have a precision instrument approach procedure. Based aircraft data for the area shows that a majority of the existing GA airports do not have aircraft weighing over 12,500 pounds (see Tables 3-1 and 3-2). Most large corporations with significant operations in Will County are currently located in the western part of the county near Joliet[184] and are currently served by the Lewis University Airport, which is approximately 30 miles northwest of SSA. However, four of the largest existing or planned industrial parks in the Chicago region, in terms of total acres, are located within 20 miles of the site: these are CenterPoint Intermodal Center located near Elwood, IL; Island City Industrial Park near Symerton, IL; Governors Gateway Industrial Park near University Park, IL; and Manheim Business Park at Matteson, Matteson, IL.[185]

Other corporate operators currently based at other airports in the region could consider moving to SSA, as long as adequate facilities are provided. However, it is speculative at this juncture to assume how many, if any, would relocate operations to SSA. If aircraft owners need to relocate they would probably go to the airport closest to their operation base. A general rule of thumb is that corporate aircraft will be based near the residences of executives who frequently use them. At this time there are not many CEO's of large corporations living near the SSA site. As SSA develops, induced economic growth in the area could entice new businesses to set up operations near the airport, with the likelihood that some of them will have their own corporate aircraft. However, this will take time to occur.

[179] FAA, Form 5010, Airport Master Record, Lake Village, December 2003.
[180] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
[181] FAA, Form 5010, Airport Master Record, Lake Village, December 2003.
[182] FAA, Terminal Area Forecasts, Fiscal Years 2002-2020, April 2003.
[183] FAA, Terminal Area Forecasts, Fiscal Years 2003-2020, February 2004.
[184] Will County Center for Economic Development, http://www.c-e-d.org/profileanddemo/employee.htm, 2004.
[185] Will County Center for Economic Development, http://www.c-e-d.org/properties/default.htm, 2004; Crain's Chicago Business, Chicago's Largest Industrial Parks, July 14, 2003.

Thus, while the potential for substantial corporate activity to operate at SSA exists, it is assumed that limited corporate activity will develop at SSA during the IAP.

Section 5 - Expected South Suburban Airport General Aviation/Corporate Aviation Role

The South Suburban Airport is expected to play an important role in serving the general aviation/corporate aviation needs of the region surrounding the site. It is expected that at DBO through DBO+5, SSA will serve general aviation and corporate aviation users that either live or desire to access the central and eastern portions of Will County.

At the present time, demand for GA and corporate aviation in the south suburbs exists but this demand is mainly for the operation of small GA aircraft. A review of recent based aircraft data in the area surrounding SSA indicates that airports such as Sanger, Frankfort and Howell-New Lenox do not have based aircraft weighing more than 12,500 pounds (see Tables 3-1 and 3-2). Demand for corporate aviation facilities could exist for eastern Will and southern Cook Counties, although most of the large corporations that have operations in Will County are currently based near Joliet.

The number of aircraft moving to SSA will also depend on the future development of other airports in the area. For example, Lansing Municipal Airport still has the ability to expand, but current runway lengths limit the type of corporate aircraft flying there.

Section 6 - Forecasts of IAP General Aviation/Corporate Aviation Activity

Two privately owned, private-use airports (Restricted Landing Areas) might require closure prior to DBO, due to their proximity to the Inaugural Airport and the orientation of their runways. These are Robert Norman and Hershel Wix. One other facility, Sanger Airport, discussed in Section 2, will also require closure. It is assumed that if adequate GA facilities are provided as part of the IAP, based aircraft at these facilities would potentially move to SSA. It is considered unlikely that based aircraft at other existing publicly owned, open to the public facilities would move to SSA.

The long-term status of a privately owned, open-to-the-public facility is also questionable. The owners of the Howell-New Lenox Airport are seeking to sell their facility but have not been able to find a buyer to keep this facility open. The New Lenox Plan Commission is in the process of rezoning the land for residential and commercial uses.[186,187] If they were to close the airfield, some of the based aircraft at this facility could be expected to relocate to SSA.

Based on the information discussed above it is possible that 31 single-engine airplanes and 2 multi-engine aircraft currently based at Sanger could be based at SSA at DBO. In addition, it is likely that Frankfort and/or Howell-New Lenox will close prior to opening of SSA. Some of these aircraft could also be expected to relocate to SSA. However, general aviation operators, particularly leisure pilots, tend to avoid air carrier airports since air traffic procedures are more cumbersome and there is a higher level of activity. In addition, air traffic controllers like to separate small aircraft from large aircraft to facilitate airport operations and enhance airspace capacity and safety.

Three general aviation/corporate aviation forecast scenarios were developed for the IAP at SSA: base case, low case and high case. For forecast purposes for GA and corporate activity at SSA, it is assumed that the low forecast would represent between 25 to 35 percent of the fleet of Sanger, Frankfort, Howell-New Lenox, Robert Norman and Hershell Wix Airports. The base forecast represents around 60 to 70 percent of the existing aircraft at these airports, and the high forecast assumes that the entire

[186] Irvine, Laura, "Planners OK revised Sky Harbor project", *The Star*, December 7, 2003.
[187] Irvine, Laura, "Developers eye Howell Airport land changes", *The Star*, January 1, 2004.

fleet of based aircraft would move to SSA. The forecasts also assumes some corporate aircraft will set up operation at the new facility.

A summary of the forecasts of general aviation/corporate aviation activity and projected based aircraft at DBO+1 and DBO+5 for the Inaugural Airport Program at the South Suburban Airport is presented in Table 3-3. The analysis assumes 400 operations per based aircraft in order to estimate annual operations, an accepted standard planning ratio used for forecasting. The growth rates used for general aviation/corporate activity are based on the rates contained in *FAA Aerospace Forecasts - Fiscal Years 2003-2014*. Since the airport is expected to focus on air carrier and air cargo activity, most of the general aviation/corporate activity is expected to be itinerant. As discussed above, the forecast assumes that some corporate aircraft will probably move to the new airport from other facilities in the region. The analysis used the combined ratio of total operations to instrument operations at airports with either FAA or contract air traffic control service, as found in the 2003 FAA forecast report[188], to estimate the number of instrument operations for general aviation/corporate activity at SSA.

Section 7 – Long-Range Projections of General Aviation/Corporate Aviation Activity

Long-range projections for general aviation/corporate aviation activity at SSA are based on national forecast rates as presented in the FAA's *Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020, 2025 and 2030*, dated June 2003. Assuming that DBO for the IAP at SSA is approximately 2010, long-range projections for general aviation/corporate aviation activity at SSA have been developed from DBO+5 through DBO+20. The annual growth in fixed-wing piston engine and fixed-wing turbine powered general aviation aircraft are expected to be 0.2 and 2.2 percent respectively, between 2015 and 2030.[189] FAA forecasts general aviation/corporate aviation operations to experience an 0.8 percent annual growth rate during the same time period.[190]

Since it is difficult to predict exactly how general aviation/corporate aviation activity will develop at SSA, especially beyond the IAP, the FAA national rates for general aviation/corporate aviation activity have been applied to the low-case and high-case IAP forecast scenarios to indicate the potential range of activity that SSA could experience in the future. Although the number of rotary-wing aircraft is expected to grow nationally at a higher rate than fixed-wing piston engine general aviation aircraft[191], for purposes of this report, IDOT assumes that they will grow at 0.2 percent annually. These long-range projections will be used in the master plan for SSA and for the purposes of identifying potential future facilities that may be required.

Based on national growth rates, the based general aviation/corporate aviation aircraft at SSA would grow from 42 to 44 using the low range projections and from 139 to 146 under the high range projections, as shown in Table 3-4. The potential long-range growth in general aviation/corporate aviation operations at SSA are also shown in Table 3-4.

[188] FAA, FAA Aerospace Forecasts: Fiscal Years 2003-2014, March 2003.
[189] FAA, FAA Long-Range Aerospace Forecasts, Fiscal Years 2015, 2020, 2025 and 2030, June 2003.
[190] Ibid.
[191] Ibid.

Table 3-3
IAP General Aviation/Corporate Aviation Activity Forecasts

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+1	*DBO+5*
Scenario "A" – High Case Forecast		
General Aviation / Corporate Aviation Operations		
SEL/MEL/Rotary Wing	52,000	52,800
Turbine	2,000	2,800
Total Aircraft Operations	54,000	55,600
Total Instrument Operations	28,100	29,200
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	130	132
Turbine	5	7
Total Based Aircraft	135	139
Scenario "B" – Base Case Forecast		
General Aviation / Corporate Operations		
SEL/MEL/Rotary Wing	33,600	34,000
Turbine	1,200	2,000
Total Aircraft Operations	34,800	36,000
Total Instrument Operations	18,100	18,900
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	84	85
Turbine	3	5
Total Based Aircraft	87	90
Scenario "C" – Low Case Forecast		
General Aviation / Corporate Operations		
SEL/MEL/Rotary Wing	16,000	16,000
Turbine	400	800
Total Aircraft Operations	16,400	16,800
Total Instrument Operations	8,500	8,800
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	40	40
Turbine	1	2
Total Based Aircraft	41	42

Source: TAMS, an Earth Tech Company, 2004.

Table 3-4
General Aviation/Corporate Aviation Activity
Long-Range Projections

CATEGORY BREAKDOWN	*PLANNING HORIZON YEAR*	
	DBO+5	*DBO+20*
High Range Projections		
Total GA/Corporate Aircraft Operations	55,600	62,700
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	132	136
Turbine	7	10
Total Based Aircraft	139	146
Low Range Projections		
Total GA/Corporate Aircraft Operations	16,800	18,900
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	40	41
Turbine	2	3
Total Based Aircraft	42	44

Source: TAMS, an Earth Tech Company, 2004.

Chapter 4 – Summary of Forecasts

Section 1 – Overview

The Inaugural Airport Program (IAP) at the South Suburban Airport is being planned to serve at least three (3) separate facets of aeronautical activity including: air passenger, air cargo and general aviation/corporate. The level of activity from each of these types of aeronautical activity is dependent on a number of factors including airline service attracted to the airport, facilities provided at the airport, operating costs and supporting infrastructure. The potential for each category of aeronautical activity to develop at the airport and the likely market segments they will serve were identified and discussed in the preceding chapters. Due to uncertainty inherent when forecasting activity for a new airport, a range of forecasts for each type of aeronautical activity was produced. These forecasts, as driven by market forces, have been labeled low, base and high to reflect certain assumptions regarding the introduction of service at SSA.

Section 2 – Forecasts of IAP Air Passenger Aviation Activity

An analysis of the existing U.S. airline industry and multi-airport systems was conducted to determine the potential air passenger role SSA would have in the Chicago airport system. Secondary or supplemental airports exist in a number of metropolitan areas in the U.S., including among others Los Angeles, Boston, New York, San Francisco, and Washington, D.C. In most of these cases, a secondary or supplemental airport was developed through expansion of an existing airport.

A preliminary financial/market analysis[192] of the Chicago region concluded that the sector of the air passenger market with the greatest likelihood of growth in the Chicago region would be that of domestic low-cost carriers. Low-cost carriers (LCC) are defined as airlines that primarily operate point-to-point destinations, operate relatively homogeneous aircraft fleets, have low operating costs, tend to use supplemental/secondary airports, and generally offer attractively priced fares. Although there are some notable exceptions (such as AirTran in Atlanta and Frontier in Denver), this definition of low-cost carriers was used in the development of the air passenger forecasts. Traditionally, low-cost carriers have attracted leisure travelers, but as amenities have disappeared from the mainline carriers, more and more business travelers are also utilizing low-cost carriers.[193] In addition, low-cost carriers have increased flight frequencies on some routes to make themselves more attractive to business travelers.

The preliminary financial/market analysis examined the routes served by airlines in Chicago and determined that only 19 percent of the routes in June 2001 were served by low-cost carriers.[194] However, on those routes that low-cost carriers were operating, they captured 26 percent of the air passenger traffic.[195] In 2002, that capture rate had increased to nearly 30 percent. Nationally, low-cost carriers, such as AirTran Airways and Spirit, have experienced annual passenger growth rates of 20.5 and 28.4 percent, respectively, since 1998.[196]

For these reasons, it is assumed that low-cost carriers would be most attracted to an unconstrained start-up airport with low operating costs. Thus, in order to attract low-cost carriers to the IAP at SSA, airline-operating costs must be kept low relative to other area airports. A financial analysis of the IAP will be presented in subsequent reports.

[192] LEK analysis, 2003.
[193] FAA, FAA Aerospace Forecasts: Fiscal Years 2003-2014, March 2003.
[194] O&D Plus, U.S. DOT Airline Origin-Destination Survey, LEK analysis, 2003.
[195] Ibid.
[196] Onboard Database Products, 2003, courtesy of The al Chalabi Group, Ltd.

It is anticipated that little or no hubbing operations will exist during the IAP, which also means that few connecting enplanements are expected. Since commuter/regional airlines typically feed passengers into hubbing operations, little commuter activity is expected to take place during the IAP. Similarly, international operations by scheduled passenger airlines are not anticipated to develop at the SSA during the IAP. If international activity does commence during the IAP, it is anticipated that it would be in the form of charter service on a seasonal basis. Domestic charter service to vacation destinations may also appear during the first years of operation.

At Date of Beneficial Occupancy (DBO), it is anticipated that scheduled passenger service would be offered first to leisure markets, such as Las Vegas, Nevada and Orlando, Florida. After DBO, air passenger scheduled service could be initiated to the business/leisure destinations of Los Angeles and New York, the top two passenger destinations identified within the SSA primary passenger market. The introduction of new passenger markets is assumed to gradually increase during the first years of airport operation.

The three forecast ranges of air passenger activity for the IAP are presented in Table 4-1. The forecasts assume that the IAP will serve a primary passenger market consisting of passengers originating within 45-minute travel time from the airport site, with no overlap of the Midway 45-minute travel time passenger market. IDOT believes that these forecasts represent a reasonable expectation of the level of air passenger activity that could develop at SSA during the IAP. As stated previously, the IAP is expected to primarily serve the domestic low-cost carrier market, with relatively little connecting, commuter or international activity.

Table 4-1
IAP Air Passenger Aviation Activity Forecasts

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+1	*DBO+5*
High Case Forecast		
Air Carrier Operations		
Domestic (Includes Charters)	3,400	23,500
Domestic Connections		
Total Domestic	3,400	23,500
International		
Total Air Carrier	3,400	23,500
Air Carrier Instrument	1,700	23,500
Air Carrier Passenger Enplanements		
Domestic O&D	169,400	968,000
Domestic Connections		
Total Domestic	169,400	968,000
International		
Total Air Carrier Enplanements	169,400	968,000
Base Case Forecast		
Air Carrier Operations		
Domestic (Includes Charters)	2,400	16,200
Domestic Connections		
Total Domestic	2,400	16,200
International		
Total Air Carrier	2,400	16,200
Air Carrier Instrument	1,200	16,200
Air Carrier Passenger Enplanements		
Domestic O&D	126,000	709,000
Domestic Connections		
Total Domestic	126,000	709,000
International		
Total Air Carrier Enplanements	126,000	709,000
Low Case Forecast		
Air Carrier Operations		
Domestic (Includes Charters)	360	9,800
Domestic Connections		
Total Domestic	360	9,800
International		
Total Air Carrier	360	9,800
Air Carrier Instrument	180	9,800
Air Carrier Passenger Enplanements		
Domestic O&D	19,600	471,000
Domestic Connections		
Total Domestic	19,600	471,000
International		
Total Air Carrier Enplanements	19,600	471,000
Military and/or other U.S. Government aircraft are expected to use the South Suburban Airport in the future, however, a projection of aeronautical operations and passengers by type and amount is not quantifiable at this time and is expected to be minimal in nature.		

Source: TAMS, an Earth Tech Company, 2004.

Section 3 – Forecasts of IAP Air Cargo Aviation Activity

The IAP has the opportunity to compete for air cargo service in the Chicago region, if it has the appropriate airport facilities, surrounding urban infrastructure and ground access. The proposed site is located in the fastest growing county in the State of Illinois and the fifth in the whole nation[197] and has good ground access with several major highways and railroad lines. It is also important to note that the I-80 corridor located north of the SSA site and south of the City of Chicago is one of the busiest truck corridors in the nation.[198]

IDOT believes that SSA is ideally suited to handle air cargo for the following reasons:

1) The SSA site is located in the largest metropolitan area in the central U.S.;
2) The Chicago region has a large O&D cargo market currently being serviced by O'Hare International Airport and, to a much lesser extent, Greater Rockford Airport;
3) The Chicago region is an international port of entry; and
4) SSA can provide access to a large portion of the U.S. population.

As noted above, the Air Passenger role of the IAP is expected to be fulfilled mainly by low-cost carriers (LCC). Normally, due to the gauge of aircraft used and the business model that they operate under, LCCs do not typically transport much belly cargo. Therefore, the IAP does not anticipate a large percentage of air cargo activity to be generated by belly cargo.

Also, due to present market saturation and potential further consolidation in the express carrier industry, IDOT does not anticipate IAP to grow into a hub-sort facility similar to other regional hubs like Rockford, but anticipates the airport to serve a portion of the O-D cargo market in the Chicago region. It is expected, though, that IAP will be linked to other existing express hub operations similar to Peoria, Decatur and Moline, Illinois. Beyond IAP, the air express market will dictate any potential domestic hub-sort operation at SSA.

An analysis of the commodities transported by air to the Chicago region was undertaken to identify the market segments that the IAP at SSA could potentially serve. IDOT believes that the IAP at SSA is ideally suited for the handling of Special and General cargo, which could serve the industrial and warehousing facilities presently located in the south and southwest suburbs of Chicago.

Comparing the current situation in Chicago with other multi-airport systems in the United States, supplemental airports in those metropolitan areas have transported a larger share of the regional activity. Based on an analysis of five multi-airport systems (Boston, Miami-Ft. Lauderdale, Houston, Los Angeles and San Francisco), IDOT has made the following forecast assumptions for domestic air cargo activity:

- Low Case Scenario: No cargo activity until DBO+5, then accounting for 2 percent of the total regional market.
- Base Case Scenario: Starting with 2 percent at DBO+1, then going to 4 percent at DBO+ 5.
- High Case Scenario: Starting with 3 percent at DBO+1, then going to 6 percent at DBO+5.

The potential for international air cargo activity also exists at SSA, as shown in case studies of the Houston, Los Angeles and San Francisco metropolitan areas where more than one airport provides international air cargo service. Currently, in the greater

[197] Population Division, U.S. Census Bureau, Table 9 – Population Estimates for the 100 Fastest Growing U.S. Counties in 2003: April 1, 2000 to July 1, 2003. Release Date: April 9, 2004.
[198] Bureau of Highways, Illinois Department of Transportation

Chicago metropolitan area, O'Hare handles nearly all of the international air cargo activity. Based on the multi-airport systems analyzed, IDOT has made the following forecast assumptions for international air cargo activity:

- Low Case Scenario: No international air cargo activity during the IAP.
- Base Case Scenario: Two percent at DBO+5.
- High Case Scenario: Starting with 2 percent at DBO+2, then going to 5 percent at DBO+5.

Table 4-2 summarizes the projected air cargo operations and tonnage at DBO+1 and DBO+5. The IAP air cargo forecasts are based on the total Chicago region forecasts developed by Global Insight for domestic and international air cargo, applying a percentage of the total demand.

It is assumed that during the first five years of operations, all-cargo freighters would primarily handle cargo activity at SSA. The growth rates used for air cargo activity at SSA are based on the latest *FAA Aerospace Forecasts – Fiscal Years 2004-2015*, the *Boeing World Air Cargo Forecast 2002/2003* and assumed potential percentages of the regional demand that could be captured on an annual basis. The payload capacity of all-cargo aircraft assumed in the analysis are similar to those currently used at O'Hare.[199] Instrument operations were assumed to account for 50 percent of total air cargo operations.

[199] City of Chicago, Appendix A, O'Hare Modernization Program – Draft Concept Development Report, February 2003.

Table 4-2
IAP Air Cargo Aviation Activity Forecasts

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+1	*DBO+5*
Scenario "A" – High Case Forecast		
Air Cargo Operations		
Domestic	1,700	3,783
International	902	1,760
Total Air Cargo	2,602	5,543
Air Cargo Instrument	1,301	2,772
Air Cargo Tonnage		
Freight/ Express	56,600	128,500
Mail	6,800	17,700
Belly Freight	11,600	48,600
Total Air Cargo Tonnage	75,000	194,800
Scenario "B" – Base Case Forecast		
Air Cargo Operations		
Domestic	1,118	2,520
International		931
Total Air Cargo	1,118	3,451
Air Cargo Instrument	559	1,726
Air Cargo Tonnage		
Freight/Express	22,400	78,300
Mail	2,600	9,400
Belly Freight	3,900	15,900
Total Air Cargo Tonnage	28,900	103,600
Scenario "C" –Low Case Forecast		
Air Cargo Operations		
Domestic	0	1,262
International	0	0
Total Air Cargo	0	1,262
Air Cargo Instrument	0	631
Air Cargo Tonnage		
Freight/Express	0	25,200
Mail	0	3,000
Belly Freight	0	4,500
Total Air Cargo Tonnage	0	32,700

Source: TAMS, an Earth Tech Company, 2004.

Section 4 – Forecasts of IAP General Aviation/Corporate Aviation Activity

The IAP at SSA is expected to play an important role in serving the general aviation/corporate aviation needs of the region surrounding the site. It is expected that at DBO through DBO+5, SSA will serve general aviation and corporate aviation users that either live or desire to access the central and eastern portions of Will County.

Two privately owned, private-use airports (Restricted Landing Areas) might require closure prior to DBO, due to their proximity to the Inaugural Airport and the orientation of their runways. These are Robert Norman and Hershel Wix. One other facility, Sanger Airport, will also require closure. It is assumed that if adequate GA facilities are provided as part of the IAP, based aircraft at these facilities would potentially move to SSA. It is considered unlikely that based aircraft at other existing publicly owned, open to the public facilities would move to SSA.

Based on the information discussed above it is possible that 31 single-engine airplanes and 2 multi-engine aircraft currently based at Sanger could be based at SSA at DBO. In addition, it is likely that Frankfort and/or Howell-New Lenox Airports will close prior to the opening of SSA. Some of these aircraft could also be expected to relocate to SSA. However, general aviation operators, particularly leisure pilots, tend to avoid air carrier airports since air traffic procedures are more cumbersome and there is a higher level of activity. In addition, air traffic controllers like to separate small aircraft from large aircraft to facilitate airport operations and enhance airspace capacity and safety.

Three general aviation/corporate aviation forecast scenarios were developed for the IAP at SSA: base case, low case and high case. For forecast purposes for GA and corporate activity at SSA, it is assumed that the low forecast would represent between 25 to 35 percent of the fleet of Sanger, Frankfort, Howell-New Lenox, Robert Norman and Hershell Wix Airports. The base forecast represents around 60 to 70 percent of the existing aircraft at these airports, and the high forecast assumes that the entire fleet of based aircraft would move to SSA. The forecasts also assumes some corporate aircraft will set up operation at the new facility.

A summary of the forecasts of general aviation/corporate aviation activity and projected based aircraft at DBO+1 and DBO+5 for the IAP at SSA is presented in Table 4-3. The analysis assumes 400 operations per based aircraft in order to estimate annual operations, an accepted standard planning ratio used for forecasting. The growth rates used for general aviation/corporate activity are based on the rates contained in *FAA Aerospace Forecasts - Fiscal Years 2003-2014*. Since the airport is expected to focus on air carrier and air cargo activity, most of the general aviation/corporate activity is expected to be itinerant. The analysis used the combined ratio of total operations to instrument operations at airports with either FAA or contract air traffic control service, as found in the 2003 FAA forecast report[200], to estimate the number of instrument operations for general aviation/corporate activity at SSA.

[200] FAA, FAA Aerospace Forecasts: Fiscal Years 2003-2014, March 2003.

Table 4-3
IAP General Aviation/Corporate Aviation Activity Forecasts

AERONAUTICAL FORECAST CATEGORY BREAKDOWN BY AVIATION TYPE	*PLANNING HORIZON YEAR*	
	DBO+1	*DBO+5*
Scenario "A" – High Case Forecast		
General Aviation / Corporate Aviation Operations		
SEL/MEL/Rotary Wing	52,000	52,800
Turbine	2,000	2,800
Total Aircraft Operations	54,000	55,600
Total Instrument Operations	28,100	29,200
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	130	132
Turbine	5	7
Total Based Aircraft	135	139
Scenario "B" – Base Case Forecast		
General Aviation / Corporate Operations		
SEL/MEL/Rotary Wing	33,600	34,000
Turbine	1,200	2,000
Total Aircraft Operations	34,800	36,000
Total Instrument Operations	18,100	18,900
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	84	85
Turbine	3	5
Total Based Aircraft	87	90
Scenario "C" – Low Case Forecast		
General Aviation / Corporate Operations		
SEL/MEL/Rotary Wing	16,000	16,000
Turbine	400	800
Total Aircraft Operations	16,400	16,800
Total Instrument Operations	8,500	8,800
Based General Aviation / Corporate Aviation Aircraft		
SEL/MEL/Rotary Wing	40	40
Turbine	1	2
Total Based Aircraft	41	42

Source: TAMS, an Earth Tech Company, 2004.

Section 5 – Summary of IAP Forecasts of Aeronautical Activity

The forecasts of aeronautical activity developed in this report will be used to establish the facility requirements in the Airport Master Plan for SSA. The Master Plan will focus on the IAP, but will also consider long-range projections and a potential "ultimate configuration" for SSA. The aircraft operations and passenger enplanement forecasts together with a breakdown of proposed aeronautical activity, design aircraft, and assumptions concerning load factors and average aircraft seating configuration, will provide a measure of the airfield and terminal requirements. These requirements will be described in a separate report and will become part of the Airport Master Plan.

Table 4-4 summarizes the low, base and high case forecasts for air passenger, air cargo, and general aviation/corporate aviation activity that will be used to develop the facility requirements for the IAP at SSA.

Table 4-4
Summary of IAP Forecasts

Aeronautical Forecast Category	Low Case		Base Case		High Case	
	DBO+1	*DBO+5*	*DBO+1*	*DBO+5*	*DBO+1*	*DBO+5*
Air Carrier Operations						
Domestic (Includes Charters)	360	9,800	2,400	16,200	3,400	23,500
Domestic Connections	0	0	0	0	0	0
Total Domestic	360	9,800	2,400	16,200	3,400	23,500
International	0	0	0	0	0	0
Total Air Carrier	360	9,800	2,400	16,200	3,400	23,500
Air Carrier Instrument	180	9,800	1,200	16,200	1,700	23,500
Air Cargo Operations						
Domestic	0	1,262	1,118	2,520	1,700	3,783
International	0	0	0	931	902	1,760
Total Air Cargo	0	1,262	1,118	3,451	2,602	5,543
Air Cargo Instrument	0	631	559	1,726	1,301	2,772
General Aviation/Corporate Operations						
SEL/MEL/Rotary Wing	16,000	16,000	33,600	34,000	52,000	52,800
Turbine	400	800	1,200	2,000	2,000	2,800
Total GA/Corporate	16,400	16,800	34,800	36,000	54,000	55,600
GA/Corporate Instrument	8,500	8,800	18,100	18,900	28,100	29,200
Total Aircraft Operations	*16,760*	*27,862*	*38,318*	*55,651*	*60,002*	*84,643*
Total Instrument Operations	*8,680*	*19,231*	*19,859*	*36,826*	*31,101*	*55,472*
Air Carrier Enplanements						
Domestic O&D	19,600	471,000	126,000	709,000	169,400	968,000
Domestic Connections	0	0	0	0	0	0
Total Domestic	19,600	471,000	126,000	709,000	169,400	968,000
International	0	0	0	0	0	0
Total Air Carrier Enplanements	19,600	471,000	126,000	709,000	169,400	968,000
Air Cargo Tonnage						
Freight/Express	0	25,200	22,400	78,300	56,600	128,500
Mail	0	3,000	2,600	9,400	6,800	17,700
Belly Freight	0	4,500	3,900	15,900	11,600	48,600
Total Air Cargo Tonnage	0	32,700	28,900	103,600	75,000	194,800
Based General Aviation/Corporate Aircraft						
SEL/MEL/Rotary Wing	40	40	84	85	130	132
Turbine	1	2	3	5	5	7
Total Based Aircraft	41	42	87	90	135	139

Source: TAMS, an Earth Tech Company, 2004.