

3. AVIATION ELEMENT

INTRODUCTION

Purpose of Chapter

This chapter provides the aviation element of the *Cape Fear Commutes 2035 Transportation Plan*. It describes the relevance of the aviation to the Transportation System, existing airport conditions and trends, and current and future issues.

Relevance to the Transportation System and the Plan

Both commercial and general aviation make distinct contributions to the transportation system, as well as having particular impacts on other aspects of the transportation system and the wider environment. Commercial aviation allows citizens to travel to other states and internationally for business, personal business or leisure. Commercial freight operations, including major parcel companies, provide a means of delivering commercial goods across the nation. Aviation is the fastest mode of transportation for traveling substantial distances. General aviation supports business travel needs, as well as providing for recreational flying.

Larger airports, such as Wilmington International Airport (ILM), are significant generators of travel demand, not only for air travelers but also for commercial vehicles and the commuting needs of airport employees. It is also important to the local tourism industry. They can act as intermodal nodes not only between air and surface transportation, but also between modes of surface transportation for which the airport is simply a convenient meeting place. Cape Fear Commutes 2035 Transportation Plan supports development of the aviation sector, and in particular plans for improved transit connections to the airport to give travelers and employees other options besides driving to the airport.

The Aviation Element includes:

- A general inventory and history of the regionally significant aviation service and facilities in the Wilmington MPO area;
- An estimation of the transportation demand associated with the aviation system;
- A list of the regional goals, objectives, and policies established for the regional aviation system;
- Recommended service and facility improvements needed to the aviation system in the area; and
- A general picture of funding sources for the potential improvements.

Airport Classification

The Federal Aviation Administration (FAA) in the National Plan of Integrated Airport Systems (NPIAS) has defined ILM as a Primary Commercial Service airport. The airport has two intersecting

runways. Runway 6-24, is 8016 feet long with two CAT 1 Instrument Landing Systems (ILS). Runway 17-35, is 7004 feet long with a displaced threshold of 400 feet. Currently Runway 35 has a localizer approach, but by 2011, ILM will complete a project to upgrade the CAT 1 ILS and Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR). The airport airspace is class D with a Federal Aviation Administration Air Traffic Control Tower in operation from 0630-2330 hours.

Existing Conditions and Trends

Wilmington International Airport is the only regional aviation facility in the Wilmington MPO. It is located less than a mile northeast of the City of Wilmington is located approximately 200 miles east of Charlotte and 130 miles southeast of Raleigh. The Airport is owned by New Hanover County, North Carolina and operated by the New Hanover County Airport Authority under terms of a thirty-year lease with New Hanover County. The latest Airport Master Plan Revision is a 10-year plan to amend the Airport's current 1995 AMP development plan.

FIGURE 1 WILMINGTON INTERNATIONAL AIRPORT



Source: Wilmington International Airport Authority

The current site of the Wilmington International Airport began as an airport in the early 1920s. During the great depression, a 3000-foot runway was constructed under the Works Progress Administration (WPA). The U.S. Army Air Corps constructed the present facility in 1942 when the airport was taken over by the Federal Government during World War II. After the war, the Federal Government declared Bluethenthal Field (now officially named Wilmington International Airport) surplus property, and under the Surplus Property Act of 1944, the facility was deeded over to New Hanover County in two separate transactions dated December 8, 1947 and May 7, 1948 at no cost to New Hanover County.

Commercial passenger service began shortly after World War II. National Airlines started service in December 1945 and discontinued service in June of 1962. Piedmont Airline's inaugural flight was in Wilmington in February of 1948 and operates today as US Airways. Regional service by Atlantic Southeast Airlines was started during the 1980s, and Delta Connection initiated service in 2004. In 1989, the North Carolina Legislature at the request of the New Hanover County Commissioners established the New Hanover County Airport Authority. The Authority consists of five members appointed for a four-year term. The Authority shall make an annual report to the County Board of Commissioners setting forth in detail the operations and transactions conducted by it.

The Wilmington International Airport (ILM) has two runways and a single terminal that has eight gates. The airport is also home to three fixed based operations (FBO's) which currently house over 100 private aircraft. There is also a 24-hour US Customs ramp for international flights. This is also one of four airports along the East coast that serves as an emergency airfield for any space shuttle needing to abort a takeoff.

Aviation Demand

Aviation demand forecasts are a key element in developing the Aviation Element of this Plan. In the 2005 Airport Master Plan Revision, current levels of ILM activity and trends were compared to the 20-year forecasted activity levels in the 1995 ILM AMP Update. According to the 2005 AMP Revision, several components of ILM Activity in 2004-2005 demand either outpaced the projected level of activity and/or timing of the facility improvements and expansion.

While Wilmington International Airport has domestic commercial service, it also serves as a port of entry for clearance into and out of the country for international charter and general aviation corporate and recreational flights. This special designation by the US Customs brings aircraft and passengers to the area. The service began in the late 1980s and represents the airport's most aggressive growth in terms of passengers cleared at 18 percent per year. The projected activity of cleared aircraft and persons cleared for 2005, according to the 1995 ILM AMP update was 15%, which is reasonable given that from 2001-2005 the rates were near 15% each.

Table 1 represents a summary of the 2004 air carrier enplanements in comparison with 1995 ILM AMP Forecast Projections for 2005, 2010 and 2015. This comparison shows that the activity is fairly close to the 1995 ILM forecast predictions.

TABLE 1: ILM ACTIVITY SUMMARY

Forecast Element	2004 (Actual)	- 2005 - 1995 AMP Forecast Projection	- 2010 - 1995 AMP Forecast Projection	- 2015 - 1995 AMP Forecast Projection
Air Carrier Enplanements	288,471	329,000	396,500	464,000
Annual Aircraft Operations	82,234	86,400	100,400	112,100
Air Carrier-Commercial	20,347	19,600	21,400	23,200
General Aviation	53,793	58,400	71,000	81,100
Military	8,095	8,400	8,000	7,800
Total Based GA Aircraft *	136	143	170	200
Single-Engine Piston *	107	110	129	150
Multi-Engine Piston *	14	15	17	19
Multi-Turbine *	7	8	11	16
Business Jet *	8	9	11	13
Rotorcraft *	1	1	2	2
GA Operations by Aircraft Type *	55,400	58,400	71,000	81,100
Single-Engine Piston *	34,500	36,300	44,100	50,400
Multi-Engine Piston *	7,700	8,100	9,900	11,300
Multi-Turbine *	6,000	6,400	7,800	8,900
Business Jet *	5,000	5,300	6,400	7,300
Rotorcraft *	2,200	2,300	2,800	3,200
Peak-Hour Operations	36.5	38.2	43.8	50.7
Air Carrier-Commercial	6.8	7.4	8.8	9.5
General Aviation	29.7	30.8	35.0	41.2
Instrument Approaches (AIA)**	2,500	2,600	2,900	3,100
Total Cargo (Tons)	2,059	1,850	3,175	4,500
* Note: ILM based aircraft projections from 2004 ILM GA Terminal Area Study.				
** Note: FAA TAF forecasts for Annual Instrument Approaches appear to be incorrect for ILM.				

Source: 1995 ILM AMP Update

Source: 2004 ILM GA Terminal Area Study.

Source: 2005 Wilmington International Airport Master Plan Revision

Air Service

Currently the airport has three carriers (US Airways, ASA/Delta Connection, and Allegiant Airways) servicing five non-stop destinations: Atlanta (ATL), New York (LGA), Charlotte (CLT), Philadelphia (PHL), and Orlando-Sanford (SFB) (See Figure 2). The most recent daily schedule had nine flights to CLT, four flights to LGA, four flights to PHL and eight flights to ATL. Allegiant flies to SFB on Thursday and Sunday.

FIGURE 2 WILMINGTON AIRPORT FLIGHT ORIGINS/DESTINATIONS MAP

Source: Wilmington International Airport Authority

Air Cargo

The volume of air cargo (freight, mail, and air express) handled at Wilmington International Airport has remained relatively constant over the past fifteen years. Federal Express, United Parcel Service, Airborne Express and DHL serve the airport. Eighty percent (80%) of the freight handled at Wilmington International Airport is by dedicated freight aircraft. Regularly scheduled commercial aircraft transports the remaining twenty percent (20%). This component as a share of total freight has been declining. Currently the airport is working to secure two new international cargo opportunities. Assuming both cargo carriers are in operation, the airport's cargo growth will increase another 900 tons per year and justify the addition of a dedicated air cargo facility.

Potential System Improvements

The responsibility for planning improvements to the regional aviation system lies with the New Hanover County Airport Authority. The existing Airport Master Plan Revision for ILM was completed in 2005. It is broken-down into three phases.

Phase 1 (0-5 Years: 2006-2010) – Short Term Planning Period

Phase 2 (6-10 Years: 2011-2015) – Intermediate Planning Period

Phase 3 (+10 Years) – Long-Term Planning Period

Most of the projects under Phase I (2006-2010) are completed or in progress. Below is the list of projects for Phase 2.

List of projects under Phase 2 (2011 – 2015):

1500 Feet Extension of Runway 24 and Taxiway ‘B’ System (9500 feet Runway Length)
 Stormwater Phase II – Extended Dry Detention Basic #2 – Runway 17 End
 Update Pavement Management System/PCI
 ILM Airport Master Plan Update (AMP/ALP Set Update)
 Update ALP, Airport ‘Exhibit A’ Property Map
 FAA BCA/EA – Runway 24 Extension
 Southside GA/SASO Apron Expansion for New Hangars (300’ x 350’)
 Eastside New GA/SASO Hangar Development
 Fee Land Acquisition – Existing Runway 17 RPZ
 Fee Land Acquisition – Existing Runway 35 RPZ
 Fee Land Acquisition – Southside T-Hangar Area
 Upgrade/Relocate ASR-8 with ASR-11
 Construct Airfield Access Road Around ARFF Building – 1,000 LF
 Northside GA FBO/Hangar Development: FBO#1 (Phase 2)
 Northside GA Hangar Development: FBO#2 (Phase 2)
 Southside GA/SASO Hangar Development
 Map on-Airport Utilities (Phase 2: GIS database)
 Runway 17-35 Improvements
 Establish Runway 17 Precision GPS (WAAS) Approach
 Establish Runway 24 Precision GPS (WAAS) Approach

Funding Sources for Potential Improvements

Three primary funding sources plus two secondary funding sources are used for airport improvement projects at the Wilmington International Airport. Two of the three primary sources are annual entitlement grants from the Federal Aviation Administration (FAA) and North Carolina Department of Transportation, Division of Aviation. The airport must apply for these two sources annually, identifying the specific capital projects to be funded. The annual capital allocation from grants is approximately \$5 million as of 2010. The third primary source is the Passenger Facility Charge (PFC), a locally funded long-term capital improvement program developed by the airport. Since PFC funding is based on the number of passengers enplaned, the airport must spread the cost of the improvements over a ten to fifteen year period.

The Airport Authority uses the two secondary funding sources, New Hanover County and private developers, only as necessary. The airport has maintained its own budget and capital improvement program since 1989. Furthermore, it is completely self-sufficient and does not require any subsidy

from New Hanover County. The airport does use New Hanover County's bond status periodically to finance some of its capital improvements over the life of the PFC program. The airport currently has one outstanding bond issue for \$4.465 million, with a term from 2003 through 2013. Another source of income is the Car Facility Charges (CFC) Revenue, which is a charge assessed on rental cars reserved at the airport. Additionally, as the airport grows, the Authority may need to call on private developers to contribute capital for landside infrastructure, which is not eligible for FAA funding; this will be in the form of a business park. In an effort to remain self-sufficient, the Airport Authority wants to diversify its revenue stream to include non-aviation business development. The ILM Airport Business Park will encourage business travel as well as assist the airport in balancing its budget. Funding requests from both secondary sources would be sporadic and related to the cost of water, sewer or other services required for aviation related industries and the ILM Airport Business Park.