

CHAPTER 2

AVIATION





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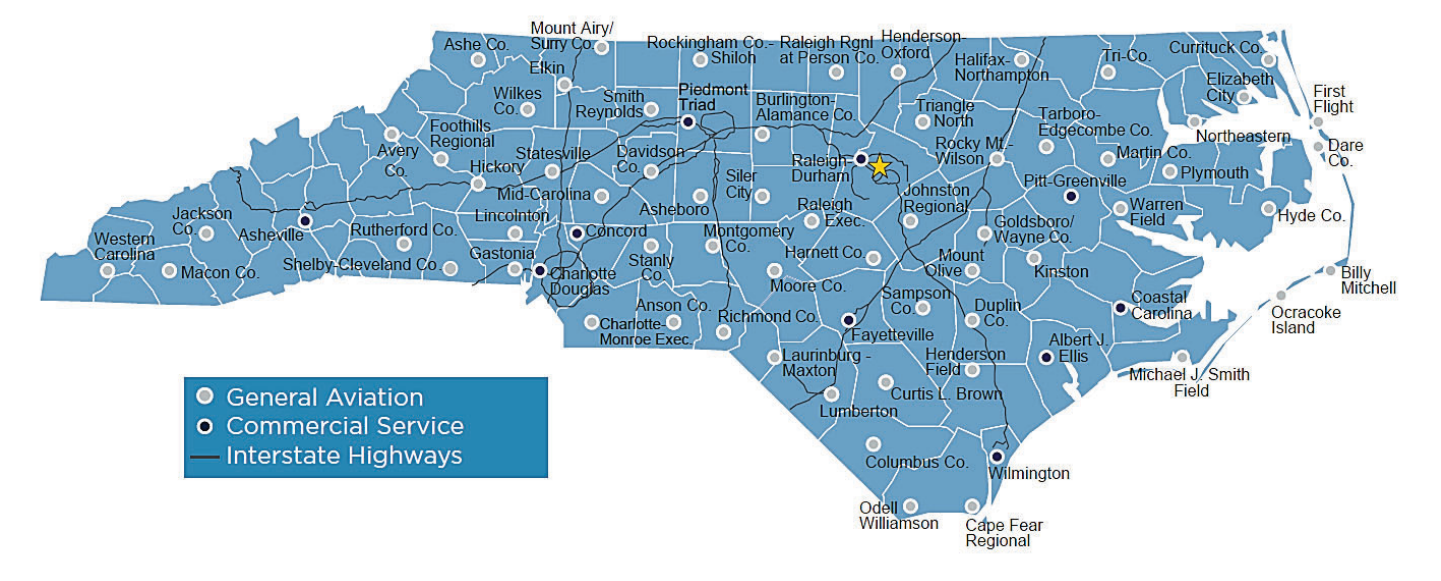
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Introduction

Airports are a critical part of North Carolina’s transportation system, linking the state to the global economy and generating economic activity, commerce, and tourism. According to North Carolina, The State of Aviation (2021) from the North Carolina Department of Transportation’s Division of Aviation, North Carolina’s public airports annually contribute \$61 billion to the state’s economy, supporting 373,000 jobs that generate \$15 billion in personal income and \$2.5 billion in state and local tax revenues.

Figure X-X. Commercial Service & General Aviation Airports in North Carolina



At first glance it may seem that the only beneficiaries of airports are their pilots, but in fact airports perform a broad range of services that are directly linked to the economic well-being of the GHMPO region and the state. Table X-X provides an overview of several of these services.

Table X-X. Airports & the GHMPO Economy

» Time-sensitive, high-value cargo/freight	» Firefighting and medical emergency operations
» Search and rescue	» Military
» Agriculture	» Aerospace/drone industry
» Tourism	» Education/flight instruction

Airports are also directly linked to economic development opportunities. Airport access is often a key decision factor for businesses evaluating potential locations for a new facility or a corporate headquarters. Local businesses frequently want to operate their chartered or corporate aircraft using airports that are located within 45 minutes to an hour’s drive from their offices. The presence of an airport within a community provides that community with a competitive advantage in attracting or retaining businesses.

Chart X-X. GHMPO Airports: Economic Impacts

Airport	Jobs	Personal Income	State/Local Taxes	Economic Output
Foothills Regional	90	\$3,660,000	\$509,000	\$10,020,000
Hickory Regional	310	\$13,400,000	\$1,737,000	\$43,130,000
Totals	400	\$17,060,000	\$2,246,000	\$53,150,000

Source: North Carolina, The State of Aviation, North Carolina Department of Transportation, Division of Aviation, 2021.

Commercial Airline and Cargo Service

Although the Hickory Regional Airport has not had commercial airline service since 2006, the airport remains certificated by the Federal Aviation Administration (Part 139) for commercial aircraft operations. Keeping the Part 139 certificate is vitally important for the airport in its efforts to re-establish commercial airline service, because commercial airlines cannot provide scheduled service at airports that lack the certificate.

Ten airports in North Carolina provide commercial airline service. According to North Carolina, The State of Aviation, (2021) Charlotte/Douglas International Airport (CLT) had over 50 million passengers in 2021. Charlotte/Douglas International Airport is the GHMPO region's closest commercial service hub airport.

Piedmont Triad International (GSO) and Asheville Regional (AVL) airports also offer commercial airline service. GSO had 2.2 million passengers in 2021; Asheville had 1.6 million. Concord Regional Airport also provides limited commercial airline service (260,000 passengers).

In addition to regular commercial airline service for passengers, airlines at CLT, GSO and RDU provide cargo service using dedicated cargo aircraft. Unlike passenger aircraft that carry "belly freight" in the baggage compartments under the aircraft floor, cargo aircraft are specifically designed (or modified) to carry large freight shipments. According to North Carolina, The State of Aviation (2021), the Hickory Regional Airport is ranked 7th in North Carolina for total air cargo tonnage. Hickory Regional Airport's 100 tons of air cargo was listed just after Statesville Regional Airport (230 tons).

GHMPO Aviation Facilities

Two airports in the GHMPO region are publicly owned, and can support both passengers and air freight: Foothills Regional Airport and Hickory Regional Airport. Hickory Regional Airport is the larger of the 2 airports, with a control tower and 2 runways.

Just off of US 321 and less than four miles from the interchange of US 321 and Interstate 40, the Hickory Regional Airport is owned and operated by the City of Hickory.

While Hickory can accommodate aircraft such as Boeing 737s, military C-130s, large private jets and other aircraft of similar size, prior landing permission is required for these aircraft types. At 6,400 feet in length, the airport's main runway is long enough to land these aircraft (depending on the weight of each aircraft, its cargo and time of year). However, regularly scheduled operations of these heavier aircraft would damage the runway and taxiway system. Foothills Regional Airport's close proximity to both Lenoir and Morganton give it unique advantages for the provision of passenger and freight service. Foothills Regional Airport's 5,500 foot runway can accommodate some larger aircraft (private/corporate jets, etc.).

The airport is governed by the Foothills Regional Airport Authority, which is comprised of elected officials from the cities of Morganton and Lenoir, and the counties of Burke and Caldwell. The cities of Morganton and Lenoir and the counties of Burke and Caldwell help fund the airport.

FIXED BASE OPERATIONS

Both Foothills Regional Airport and Hickory Regional airports provide Fixed Base Operator (FBO) services. FBOs provide jet fuel, AvGas, flight planning stations for pilots, pilot lounges and aircraft maintenance services.

FBOs are important assets for both the airports (revenue generated from fuel sales and maintenance activity) and for pilots (FBOs provide opportunities for crew rest, flight planning activities, and are often the first impression visitors experience when arriving in the region).

BASED AIRCRAFT

Based aircraft are general aviation aircraft that are stored at an airport either in hangars or on tie-down spaces. The number and types of based aircraft at an airport can serve as a measure of an airport's local corporate, business, and leisure flight activity.

AIRCRAFT OPERATIONS

An aircraft operation refers to either a takeoff or a landing. Airports track the number of operations on a monthly and annual basis in order to measure overall demand and monitor the types of aircraft using the facility.

Airport	Based Aircraft	Aircraft Operations
Foothills Regional Airport	59	47/day*
Hickory Regional Airport	73	81/day**

* 12-month period ending August 29th 2020. **12-month period ending December 31, 2021. Source: [airnav.com](https://www.airnav.com)

Airport Planning

The number of based aircraft at an airport fluctuates frequently due to changing economic conditions, seasonality, and operating costs. An increase in the number of based aircraft at an airport, while desirable, may result in hangar space and aircraft tie-down parking shortages. These shortages could prevent local businesses and pilots from using an airport, forcing them to rely on less convenient facilities. A careful balance must be struck when evaluating the need for additional hangars and aircraft parking spaces. Achieving a balance between hangar/ parking space supply and demand is made more challenging because of the aviation sector's susceptibility to fluctuations in the economy.



Since based aircraft are taxed locally, revenue streams can be significantly impacted by an increase or decrease in the number of based aircraft at an airport. Corporate aviation departments are often the first to be cut back at the onset of a recession or economic downturn, which may lead to reductions in fleet sizes and hangar lease cancellations. Conversely, during periods of economic growth, the overall aviation sector also experiences growth - often leading to pressure to expand hangar space.

Importantly, an increase in the number of based aircraft also leads to increased rents and tax revenue for an airport, and can imply increased local economic activity.

An increase in aircraft operations leads to increased wear and tear on an airport's runway, taxiway and ramp system.

Wear and tear can result from an increase in the number of historically similar aircraft types using an airport or because of a change in the mix of aircraft types (i.e. heavier and larger aircraft) using the airport.

However, an increase in wear and tear can also occur even if the number of aircraft operations decreases or remains the same – but the mix of aircraft types using the airport becomes larger and heavier.

An increase in airport operations can also lead to increased fuel sales, a primary source of revenue for Hickory and Foothills Regional airports. Like the number of based aircraft, an increase in fuel sales can also imply an increase in local economic activity.

CURRENT AND FUTURE AIRPORT PROJECTS

Foothills Regional Airport is planning several future projects, including a partial parallel taxiway extension to eliminate the need for aircraft to use the runway for back taxiing purposes; a 500-foot extension of Runway 21 and additional hangars. The airport's waiting list for hangar space has grown to 61 individuals seeking space for their aircraft. The lack of ability to accommodate additional aircraft hinders economic development and limits the airport's ability to generate revenue to support operations. In addition, the airport is surrounded by several thousand acres of land that could potentially be developed into an industrial park.

NCDOT's 2024 – 2033 Draft State Transportation Improvement Program (STIP) includes a 600-foot Extension of Runway 6/24 – Phase I and II. Construction is scheduled to begin in 2024. Extending the runway will allow some larger aircraft to operate at the airport while also making it easier for heavier aircraft to take off during the hot summer months. The draft STIP also includes project AV-5752, for land acquisition and obstruction removal. Right of way acquisition is scheduled for 2026. In addition, Hickory Regional Airport is scheduled to take delivery of 12 T-hangars for general aviation aircraft in fall 2022. Runway 1/19 will be closed to accommodate the placement of the T-hangars.

Both airports – while accessible – are reachable using smaller 2 lane roads. Future development at each airport will likely require road access improvements.

AIRPORT MASTER PLAN/AIRPORT LAYOUT PLAN

The FAA's AIP Sponsor Guide describes an airport master plan as an airport's blueprint for long term development. Some of the goals of a master plan are to:

- » Provide a graphic representation of existing airport features, future airport development and anticipated land use.
- » Establish a realistic schedule for implementation of the proposed development
- » Identify a realistic financial plan to support the development
- » Validate the plan technically and procedurally through investigation of concepts and alternatives on technical, economic and environmental grounds.
- » Prepare and present a plan to the public that adequately addresses all relevant issues and satisfies local, state and federal regulations.
- » Establish a framework for a continuous planning process.

Chart X-X. Primary Functions of the ALP.

1. Required for state and federal funding
2. Guideline for future development
3. Record of aeronautical requirements
4. Assist with financial planning for improvements and airspace protection
5. Provide a working tool for sponsor

Source: NCDOT Division of Aviation.

The Federal Aviation Administration (FAA) states that "The term 'Master Plan' is a term of art, and means different things to different organizations and individuals. However, of the related terms (Master Plan, Master Plan Update, ALP Update), all have this in common: " ...the primary deliverable is an updated Airport Layout Plan (ALP).....focused on the future development needs of the airport." NCDOT summarizes the five primary functions of the ALP in the box below.

AIRPORT PROJECT FUNDING SOURCES

As discussed in the 2016 North Carolina Program Guidance Handbook, State funding is used to fund three overarching categories of airport projects:

1.) Safety/Regulatory/Operations Projects (NCDOT Highway Fund).

- » Land acquisition for approach requirements (Clearing, Runway Protection Zone/Safety Area)
- » Pavement expansions to bring airport up to System Plan Objectives
- » Airfield maintenance buildings
- » Navigation and airfield lighting & signage
- » Pavement overlay and rehabilitation
- » Fencing

2.) Capital Improvement Projects – Airport (NCDOT Highway Trust Fund – STI; for projects that expand airport capacity and/or alleviate congestion).

- » Land acquisition for runway development projects
- » Major pavement expansions for runway development projects
- » New buildings (terminal or hangars)
- » Projects that exceed the System Plan objectives and goals
- » New airports
- » Fuel facilities

3.) Statewide Programs.

- » Pavement marking, pavement sealing, crack sealing, shoulder grading, ditch cleaning, and tree removal
- » Wildlife Hazard Management Program
- » Weather reporting (AWOS)

Chart X-X. State Airport Project Funding Summary

Project Focus		Airport Type	Definition	Funding Available
Statewide Mobility (4 airports)	Address Significant Congestion	Commercial Service Airports included in NPIAS	International Service or 375,000 annual enplanements (CLT, RDU, GSO, ILM, AVL)	\$500,000 per airport per project per year
Regional Impacts (6 airports)	Improve Connectivity within Regions	Commercial Service Airports included in NPIAS	Not included in "Statewide Mobility" (OAJ, EWN, JQF, PGV, FAY)	\$300,000 per airport per project per year
Division Needs (62 airports)	Address Local Needs	General Aviation Airports included in NPIAS	Not included under "Statewide Mobility" or "Regional Impacts"	Statewide total not to exceed \$18,500,000 per year

Source: North Carolina Division of Aviation, North Carolina Airports Program Guidance Handbook, 2016.

AVIATION RECOMMENDATIONS

The GHMPO recognizes the importance of collaboration in developing projects that will benefit the region's airports – and the area's wider transportation system. Both Foothills Regional Airport and Hickory Regional Airport are vital to the region's transportation infrastructure and its future economic development.

1. Continue to work with Foothills Regional Airport and Hickory Regional Airport to identify and prioritize improvement projects, focusing on safety and capacity improvements.
2. Identify funding sources for improvement projects.
3. Work with each airport to improve roadway accessibility.