DIVISION OF
AVIATION

North Carolina Airports
PROGRAM GUIDANCE HANDBOOK

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List of Acronyms

AAM	Advanced Air Mobility
AAS	Office of Airports Safety and Standards
AATF	Airport and Airway Trust Fund
ABMT	Airport Board Member Training
AC	Advisory Circular
ACE	Aviation Career Education
ACIP	Airport Capital Improvement Plan
ACRP	Airport Cooperative Research Program
ADO	Airports District Office
ADP	Airport Development Plan
A/E	Architect/Engineer
AIG	Airport Infrastructure Grant
AIP	Airport Improvement Program
ALMP	Airport Leadership and Management Program
ALP	Airport Layout Plan
ALS	Approach Lighting System
AMT	Aircraft Maintenance Technician
AOPA	Aircraft Owners and Pilots Associations
APHIS	Animal and Plant Health Inspection Service
APM	Airport Project Manager
ARFF	Aircraft Rescue & Fire Fighting
ARP	Office of Airports
ARPA	American Rescue Plan Act
ASDS	Advanced Systems Design Services Team
ASOS	Automated Surface Observing System
ATCT	Air Traffic Control Tower
ATF	Air Traffic Facilities
ATP	Airport Terminal Program
AVP	Approach with Vertical Guidance
AWOS	Automated Weather Observing System
BIL	Bipartisan Infrastructure Law
BOT	Board of Transportation
CARES	Coronavirus Aid, Relief, and Economic Security Act
CATEX	Categorical Exclusion
CCSF	Certified Cargo Screening Facility
CFR	Code of Federal Regulations
CMAR	Construction Manager at Risk
COC	Certificate of Coverage
CRRSAA	Coronavirus Response and Relief Supplement Appropriations Act
CSA	Cooperative Services Agreement
D-B	Design-Build

D-B-B	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DENR	Department of Environment and Natural Resources
DME	Distance Measuring Equipment
EA	Environmental Assessment
EAA	Experimental Aircraft Association
EAS	Essential Air Service
EBS	Enterprise Business Services
EIS	Environmental Impact Statement
EMAS	Engineered Materials Arresting System
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FBO	Fixed-Base Operator
FEMA	Federal Emergency Management Agency
FCC	Federal Communications Commission
FCT	FAA Contract Tower
FSDO	Airport Flight Standards District Office
FY	Fiscal Year
GA	General Aviation
GAADP	General Aviation Airport Development Plan
GAL	General Aviation Legislation
GAMA	General Aviation Manufacturers Association
IFE	Independent Fee Estimate
IIJA	Infrastructure Investment and Jobs Act
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
ITRE	Institute for Transportation Research and Education
MALSR	Medium Intensity Approach Light System with Runway Alignment Indicator Lights
MBE	Minority-owned Business Enterprise
METAR	Meteorological Aerodrome Report
MLS	Microwave Landing System
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSA	Master Services Agreement
NADIN	National Airspace Data Interchange Network
NAS	National Airspace System
NBAA	National Business Aviation Association
NCAA	North Carolina Airports Association
NCAIP	North Carolina Airport Improvement Program
NC AirTAP	North Carolina Airport Technical Assistance Program
NCAP	North Carolina Airport Professional Certification
NCASP	North Carolina State Airport System Plan
NCEM	North Carolina Emergency Management (part of NC Department of Public Safety)
NCDEQ	North Carolina Department of Environmental Quality

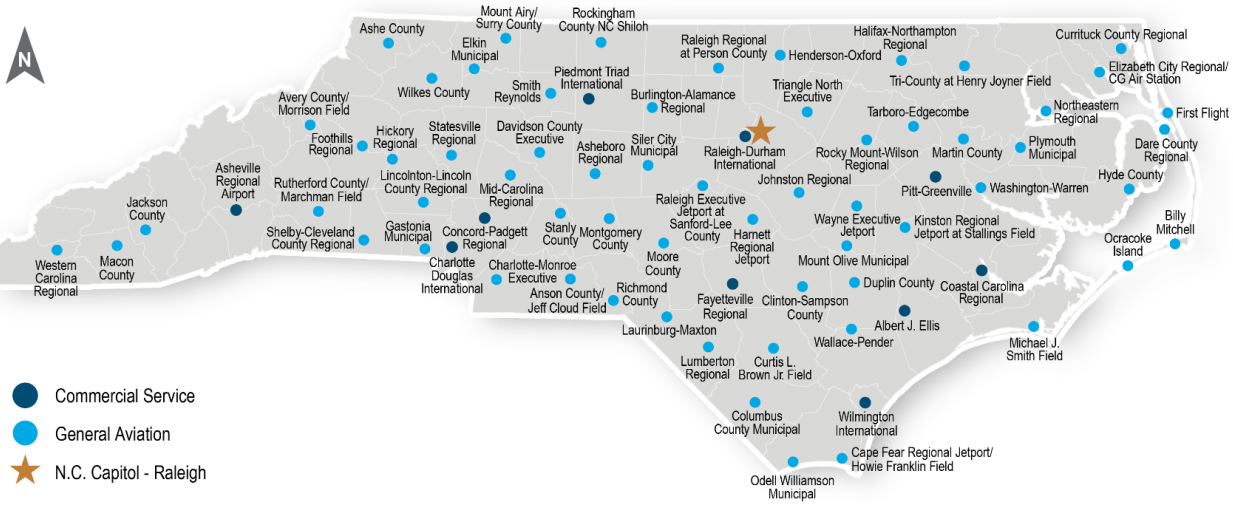
NCDNCR	North Carolina Department of Natural and Cultural Resources
NCDOT	North Carolina Department of Transportation
NC GS	North Carolina General Statutes
NCNHP	North Carolina Natural Heritage Program
NCSHPO	North Carolina State Historic Preservation Office
NCSU	North Carolina State University
NCWRC	North Carolina Wildlife Resources Commission
NDB	Non-directional Radio Beacon
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPE	Non-Primary Entitlement
NPIAS	National Plan of Integrated Airport Systems
NPS	National Park Service
NTSB	National Transportation Safety Board
OCR	Office of Civil Rights
ODALS	Omni Directional Approach Lighting System
OFA	Object Free Area
OFZ	Obstacle Free Zone
OIG	Office of the Inspector General
OMB	Office of Management and Budget
OSBM	Office of State Budget and Management
PCI	Pavement Condition Index
PCN	Pavement Classification Number
PFC	Passenger Facility Charge
RDC	Runway Design Code
REIL	Runway End Identifier Light
RFA	Request for Aid
RFQ	Request for Qualifications
RPO	Regional Planning Organization
RPZ	Runway Protection Zone
RSA	Runway Safety Area
SBGP	State Block Grant Program
SCIF	State Capital Infrastructure Funds
SEPA	State Environment Policy Act
SIAP	Standard Instrument Approach Procedure
SIB	State Infrastructure Bank
SL	Session Law
SOQ	Statement of Qualifications
SPAM	Safety, Preservation, and Maintenance Program
SPCC	Spill Prevention, Control, and Countermeasure
SPOT	State Prioritization Office
STI	Strategic Transportation Investments
STIP	State Transportation Improvement Program
SWPPP	Stormwater Pollution Prevention Plan

TALONS	Tracking Airport Logistics, Operations and Navigation System
TERPS	Terminal Instrument Procedures
TOP	Trusted Operator Program
TRDF	Transportation Reserve Directed Funds
TSA	Transportation Security Administration
UAS	Unmanned Aircraft System
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish & Wildlife Service
VHF	Very High Frequency
VOR	VHF Omni-Range
WBE	Women-owned Business Enterprise
WHSV	Wildlife Hazard Site Visit
WMSCR	Weather Message Switching Center Replacement
WRC	Wildlife Resources Commission

Chapter 1. Introduction

Airports are vital to North Carolina ("State"), fueling the economy and providing critical links across the State and national transportation system. For over 120 years, North Carolina has been a national leader in aviation, and the State boasts a system of 72 airports that are part of the National Plan of Integrated Airport Systems (NPIAS). Of the 72 NPIAS airports, 10 are considered Primary airports, which means they are commercial service airports that support 10,000 or more annual enplanements. The remaining 62 airports are Non-Primary airports that support general aviation (GA) operations only.[1] **Figure 1-1** shows the commercial service (Primary) airports and GA (Non-primary) airports across the state. According to the 2023 *North Carolina: The State of Aviation*[2] report, North Carolina's 72 publicly owned airports contribute over $72 billion annually in economic impact to the State's economy. Airports also support thousands of jobs that generate $23 billion in personal income and $3.7 billion in state and local tax revenues. Approximately 60 million passengers fly to and from North Carolina each year using one of the State's public-use airports. In addition to supporting passengers, airports in North Carolina are managing record levels of cargo, with more than 1.3 million tons of cargo passing through N.C. public airports in 2021, which is a 22 percent increase from 2019.

Figure 1-1. Public-Use Airports



To support the needs and growing demand of the State's aviation system, the North Carolina Department of Transportation's Division of Aviation (NCDOT Aviation) provides financial and technical assistance to eligible airport sponsors[3] for the planning, development, promotion, construction, and operation of public-use airports. The NCDOT Aviation has developed this guide to provide airport sponsors and other interested parties with an understanding of the NCDOT Aviation's programs, funding process, and requirements.

[1] All GA airports are referred to as Non-Primary airports throughout this Guidebook and all commercial service airports are referred to as Primary airports.
[2] North Carolina: The State of Aviation is updated every two years to provide a current snapshot in time of the contributions that aviation makes to the State's economy.
[3] An airport sponsor is a public agency such as a city or county or private owner such as an airport authority that controls a public-use airport.

Chapter 2. Roles and Responsibilities

There is a strong partnership between NCDOT Aviation, the Federal Aviation Administration (FAA), and airport sponsors. There are also many other vested agencies and groups that are integral for North Carolina's aviation system to continue to grow and prosper. Each of the groups and agencies presented in **Table 2-1** serves a role and has responsibilities in the administration and development of individual airports in North Carolina and the overarching statewide air transportation system. This chapter explains these roles and responsibilities.

Table 2-1. Agencies and Groups Supporting Aviation in North Carolina

Federal	
FAA	**Other Federal Agencies**

• **Office of Airports:**
  ○ Airports District Office (ADO)
  ○ Office of Airports Compliance and Management Analysis
  ○ Office of Airports Safety and Standards (AAS)
  ○ Office of Airports Planning and Programming
• **Office of Aviation Safety:**
  ○ Airport Flight Standards District Office (FSDO)
• **Office of NextGen**
• **FAA Lines of Business:**
  ○ NAVAIDS
  ○ Surface Weather Observation Stations (Automated Surface Observing System [ASOS]/Automated Weather Observing System [AWOS])
  ○ Instrument Procedures
  ○ Safety Inspection
  ○ Advanced Systems Design Services Team (ASDS)
	• Transportation Security Administration (TSA)
	• Environmental Protection Agency (EPA)
	• U.S. Department of Agriculture (USDA)
	• U.S. Army Corps of Engineers (USACE)
	• U.S. National Park Service (NPS)
	• U.S. Fish & Wildlife Service (USFWS)
	• Federal Communications Commission (FCC)

State	
NCDOT	**Other State and Regional Agencies**
• Division of Aviation • Highway Divisions (14 Divisions) • Right of Way Unit • Contract Standards and Development Unit • State Prioritization Office and State Transportation Improvement Program (STIP) • Office of Civil Rights • Office of Inspector General • Attorney General's Office • Office of Finance and Budget • Communications Office	• Office of State Budget and Management • Department of Commerce • Economic Development Partnership of North Carolina (EDPNC) • Department of Administration, Division of Purchase and Contract • Department of Administration, State Environmental Review Clearinghouse • Department of Environmental Quality • Wildlife Resources Commission • Department of Natural and Cultural Resources, State Historic Preservation Office
Airport Sponsors	
National Plan of Integrated Airport Systems (NPIAS) Airports	Privately Owned – Public Use/Non-NPIAS Airports

Source: Kimley-Horn

2.1. Federal Agencies

The following subsections highlight the roles and responsibilities of the FAA and other federal agencies.

2.1.1. FAA

The mission of the FAA is to provide a safe and efficient national airport system. The FAA performs this mission through several program and policy initiatives. The FAA has exclusive authority over airspace in the United States, including airspace used by unmanned aircraft systems (UAS); provides financial support through various programs; establishes rules, regulations, and guidance through Advisory Circulars (ACs), FAA Orders, Standard Operating Procedures, and other memos; and initiates progress toward Next Generation (NextGen) technologies, via the Office of NextGen. **Chapter 5. Federal Programs and Funding Sources** offers more information regarding federal funding sources, including the Airport Improvement Program (AIP) program, and other federal programs.

2.1.1.1. FAA Office of Airports

The FAA Office of Airports is tasked with a variety of responsibilities that ensure a safe, efficient, and effective system of airports. Responsibilities are organized by several other offices, each with distinct roles and responsibilities. The offices within the Office of Airports that NCDOT Aviation interacts with most are:

- Regional Airports Division and District Offices (ADOs)
- Office of Airports Compliance and Management Analysis
- Office of Airports Planning and Programming
- Office of Airports Safety and Standards

Of these offices within the Office of Airports, the ADO is the main point of contact for both NCDOT Aviation and airport sponsors. **Due to North Carolina's status in the State Block Grant Program (SBGP), some FAA roles and responsibilities related to GA[4] airports are performed by the NCDOT Aviation.** The exception is for the 10 Primary airports that coordinate directly with the FAA and are not impacted by the SBGP.

The FAA holds airports accountable to federal grant obligations and enforces these obligations through the Airport Compliance Program.

NCDOT Aviation is responsible for resolving compliance issues at GA

Under the SBGP Memorandum of Agreement, the ADO provides overall guidance on behalf of the FAA and serves as the primary contact for NCDOT Aviation. The FAA refers airport sponsors, and their consultants, to NCDOT Aviation for questions related to proposed block grant projects and other AIP-related matters. The FAA ADO may also provide policy guidance and advisory opinions to NCDOT Aviation as needed; however, NCDOT Aviation bears the ultimate responsibility for project administration that complies with federal requirements. The FAA ADO is available to hear and help settle disputes should they arise between NCDOT Aviation and airport sponsors. The other responsibilities or divisions within the Office of Airports are summarized in **Table 2-2**.

More detail regarding specific roles and responsibilities of the FAA and the State pertaining to the SBGP can be found in **FAA AC 150/5100-21.**

Table 2-2. Other Responsibilities of the FAA Office of Airports

FAA Office of Airports	Description
Office of Airports Compliance and Management Analysis	Includes two groups, the Financial Management Analysis group which enforces statutory requirements of airport revenue use at Primary airports, and the Airport Compliance Program, which interprets, recommends, and develops policies. It also adjudicates formal complaints and FAA-initiated investigations for the State's Primary airports.
Office of Airports Planning and Programming	Includes two divisions, the Airports Financial Assistance division, which manages the AIP program for Primary airports in North Carolina, and Airport Planning and Environmental division, which provides guidance on airport planning and a broad range of environmental issues.
Office of Airports Safety and Standards	Primarily responsible for all airport program matters related to standards for airport design, construction, maintenance, operations, safety, Part 139 airport certification, and airport safety management systems. This office also oversees the Airport Cooperative Research Program (ACRP).

Source: FAA.gov

[4] Airports that are considered non-primary in the NPIAS are included in the SBGP. All non-primary airports in NCDOT Aviation are GA airports as of the 2023 – 2027 NPIAS.

2.1.1.2. FAA Office of Aviation Safety: Flight Standards District Office (FSDO)

Another main point of contact for airport sponsors are Flight Standards District Offices (FSDOs). The FSDO will typically be one of the initial points of contact following an aircraft incident. There are two FAA FSDOs in NC, one in Charlotte that serves airports on the western side of the state, and one in Greensboro that works with airports on the eastern side. NC airports should coordinate with their local FSDO on several items, including, but not limited to:

- Low-flying aircraft
- Accident reporting
- Air carrier certification and operations
- Aircraft maintenance
- Aircraft operational issues
- Aircraft permits
- Airmen certification and licensing
- Certification and modification issues
- Enforcement of airmen and aircraft regulations
- Illegal air charter

2.1.1.3. FAA Office of NextGen

The FAA's Office of NextGen is responsible for coordinating with other FAA offices or divisions regarding NextGen initiatives, programs, and policy development. This office often collaborates with other federal and state government agencies, as well as the aviation community, to harmonize NexGen policies and procedures.

2.1.1.4. Other FAA Lines of Business

The FAA is also responsible for overseeing other lines of business, including NAVAIDS, Surface Weather Observation Stations (ASOS/AWOS), flight procedures, and safety inspections. Airports should work directly with the FAA on these lines of business, which are summarized in **Table 2-3.**

Table 2-3. Additional Roles Served by the FAA

FAA Roles	Description
FAA NAVAIDS	Reviews existing and planned installations of NAVAIDS for eligibility and benefit to the National Airspace System (NAS). As a part of the SBGP, NCDOT Aviation meets with the NAVAIDS group on behalf of GA airports annually to discuss any project that will impact facilities.
FAA Flight Procedures	Ensures safe and efficient flight paths from takeoff to landing and provides operational safety reviews to support the NAS. Airports coordinate with Fight Procedures staff on developments that affect airspace. When Airports coordinate with FAA Flight Procedures, they should be sure to include their APM in this coordination as NCDOT Aviation may field questions or calls from FAA Flight Procedures.
FAA Safety Inspection	FAA requires that airports be inspected regularly. The Part 139 airports receive Part 139 inspections, which are conducted annually by

FAA Roles	Description
	the FAA. 5010 inspections are required for the Non-Primary airports, and those inspections are conducted by NCDOT Aviation every three years. FAA offers a self-inspection checklist that airport sponsors should conduct daily.
Advanced Systems Design Services Team (ASDS)	Under the direction of the ATO, the ASDS is responsible for managing the Non-Federal Technologies Program and provides regulatory oversite of non-federal systems. Airports should include their APM in any coordination with the ASDS team.

Source: NC AirTAP, Airport Board Member Training, Module 6.

2.1.2. Other Federal Agencies

In addition to the FAA, there are other federal agencies or resources that are integral in the development and operation of airports. The agencies or resources that NCDOT Aviation and airports coordinate with, or reference, the most include:

- **Transportation Security Administration (TSA):** TSA provides passenger and baggage security at Primary airports in the State. In addition, TSA has published Security Guidelines for General Aviation Airports, which contains guidelines and recommendations to airport sponsors, operators, and users for enhancing security at GA/Non-Primary facilities.
- **Environmental Protection Agency (EPA):** The EPA requires airports to follow several rules and guidelines while operating and developing airports to protect the environment. The guidelines and rules established by EPA are as follows:
    - Airports must obtain stormwater discharge permits under the National Pollutant Discharge Elimination System (NPDES) permit program.
    - NPDES regulations require that a Stormwater Pollution Prevention Plan (SWPPP) be written for each facility that has been issued a stormwater discharge permit. A typical SWPPP is a site-specific document written for an individual facility.
    - Airports must follow Airport Deicing Effluent Guidelines to ensure that wastes from deicing are properly collected and treated.
    - Airports that store jet fuel and avgas are required to prepare Spill Prevention, Control, and Countermeasure (SPCC) Plans to reduce the likelihood of a spill, under the Clean Water Act Section 311(j). Airports must also adopt certain measures to keep accidental releases from reaching navigable waters.
    - National Environmental Policy Act (NEPA) requirements go into effect when an airport proposes a project with potential environmental impacts. Documented Categorical Exclusions (CATEXs), Environmental Assessments (EAs), and Environmental Impact Statements (EISs) assess the likelihood of impacts to the natural or human environment from alternative courses of action. The FAA requires these documents before they will fund a project. As part of an EA or EIS, agencies are required to disclose these impacts to interested parties and the public. Resources under the authority of US EPA are considered in NEPA documents.

It is important to note that due to the SBG, NCDOT Aviation plays a role in each of these guidelines, including all NEPA and State EPA (SEPA) determinations, reviewing SWPPPs and SPCCs, and more. NCDOT Aviation will coordinate with the North Carolina Department of Environmental Control (NCDEQ) as needed on these items. NCDEQ is responsible for the NPDES permitting program primarily.

- **U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) Wildlife Services:** The USDA APHIS Wildlife Services has a team of wildlife biologists that provide technical assistance and training to airports to manage birds and other wildlife hazards. Wildlife Services conducts Wildlife Hazard Assessments and provides both direct and technical assistance and training through wildlife hazard management programs. Primary duties include continuing an operational program to mitigate wildlife hazards to aviation at Primary airports and working with NCOT Aviation to assess and address wildlife hazards at the state's GA airports. **Appendix C** provides details on the state's Wildlife Hazard Mitigation Program for airports.

  Through a cooperative agreement with NCDOT Aviation and USDA APHIS Wildlife Services, training and wildlife services are provided to GA airports.
- **U.S. Army Corps of Engineers (USACE):** The Wilmington District administers the USACE regulatory permit program for streams and wetlands in North Carolina. When airport projects involve wetlands and other aquatic resources under authority of the USACE, airports must submit an application to the Corps to permit changes.
- **U.S. National Park Service (NPS):** NPS owns and operates three of the public-use airports in North Carolina along the eastern coast, including Billy Mitchell (HSE), Ocracoke Island (W95), and First Flight Airport (FFA). **Through a Memorandum of Understanding (MOU) with NPS, NCDOT Aviation is responsible for administering funding and operations activities, as well as select airfield improvement projects at these facilities.**
- **U.S. Fish and Wildlife Service (USFWS):** In fulfilling their responsibility to manage for wildlife hazards on airports, sponsors must obtain a depredation permit from USFWS for the legal taking, possession, or transport of any migratory birds. USFWS also protects and manages species listed under the Federal Endangered Species Act (16 U.S.C. 1531 to 1543), which must be considered under NEPA and State Environment Policy Act (SEPA). Most bird species occurring in North Carolina fall under the regulatory authority of USFWS.
- **Federal Communications Commission (FCC):** An FCC license is required for all airport equipment that broadcasts electromagnetic signals, and airports must coordinate with the FCC on all electromagnetic signal equipment. **It is easier to renew FCC licenses than reapply, so do not let them expire!**

2.2. North Carolina Department of Transportation (NCDOT)

NCDOT is the largest government agency in the state and includes various organizational units and offices. Many of the divisions within NCDOT rely on and coordinate with one another to perform NCDOT's mission, which is **"connecting people, products, and places safely and efficiently with a customer focus, accountability, and environmental sensitivity to enhance the economy and vitality of North Carolina."**

The following subsections summarize the units or offices within NCDOT that are related to, or associated with, maintaining the state's aviation system.

2.2.1. Division of Aviation (NCDOT Aviation)

NCDOT Aviation has authority over the airports that are included in the FAA's National Plan of Integration Airport Systems" and accepts FAA federal grant money through the FAA SBGP. All of the publicly owned public-use airports in North Carolina are included in the NPIAS. NCDOT Aviation is authorized to promote the development of airports and aviation in the State per Article 7 of the North Carolina General Statutes (NC GS) Chapter 63:

> *"To provide State aid in form of loans and grants to cities, counties, and public airport authorities of North Carolina for the purpose of planning, acquiring, constructing, or improving municipal, county, and other publicly owned or controlled airport facilities, and to authorize related programs of aviation safety, education, promotions, and long-range planning."*

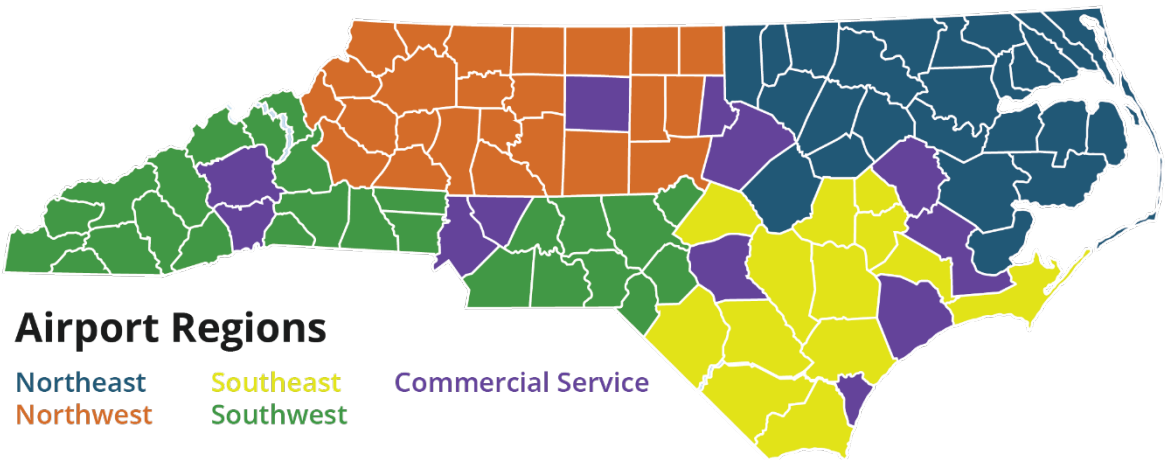
NCDOT Aviation is considered a transit division within NCDOT, and their general role is to advocate for and deliver services that promote and enhance a healthy and safe air transportation system. NCDOT Aviation has the authority to implement and manage regulations that fit within state laws, as it relates to aviation operations. As an FAA State Block Grant Program (SBGP) state, NCDOT Aviation performs many of the functions typically performed by the FAA and administers a variety of other programs and funding resources to support the 72 airports in the State's system. **NCDOT Aviation is primarily involved with airports that are publicly owned and open for public use**. These 72 facilities are recognized in the NPIAS, make up North Carolina's aviation system, and are eligible for federal funding. NCDOT Aviation has some involvement with airports that are privately owned and open to the public; however, involvement is limited to select programs, such as 5010 inspections, and these airports are not eligible for federal funding. Privately owned airports that are not open to the public are not eligible for any federal or state programs.

Figure 2-1 provides an overview of NCDOT Aviation's core functions, which are broad and include managing state and federally funded airport capital improvement and maintenance programs, leading the integration of unmanned aircraft systems (UAS) and advanced air mobility (AAM) in the State, supporting aviation-related business and workforce development and providing passenger and photogrammetry services for State agencies and personnel. More information on programs and funding resources administered by NCDOT Aviation is included in **Chapter 3. State Programs and Funding Sources**.

Figure 2-1. NCDOT Aviation Core Functions

To support airports and their development, NCDOT Aviation has divided the GA airports into five distinct regions. Four focus on GA airports and are organized based on geographic regions—Northeast, Northwest, Southeast, and Southwest. A fifth region, not based on geographic region, comprises the 10 Primary airports. The five regions are presented in **Figure 2-2**. NCDOT Aviation has assigned an airport project manager (APM) to each region to provide technical assistance and expertise with airport planning, engineering, design, and construction. APMs are also responsible for the administration and management of the State's and FAA's grant programs for airports within their respective region.

Figure 2-2. Airport Project Manager Regions Map



2.2.2. State Prioritization Office and State Transportation Improvement Program (STIP)

NCDOT is responsible for developing the State Transportation Improvement Program (STIP), which is a 10-year plan that identifies the needs and scheduling of transportation projects throughout the state. The Strategic Prioritization Office (SPOT) is responsible for developing and administering the prioritization process for all STIP projects. The STIP program covers six transportation modes: highway, ferry, rail, bicycle/pedestrian, public transit, and aviation. Metropolitan and Rural Planning Organizations (MPOs and RPOs) also play a role in the development and implementation of the STIP. More information on STIP can be found in **Chapter 3. State Programs and Funding Sources**.

MPOs and RPOs

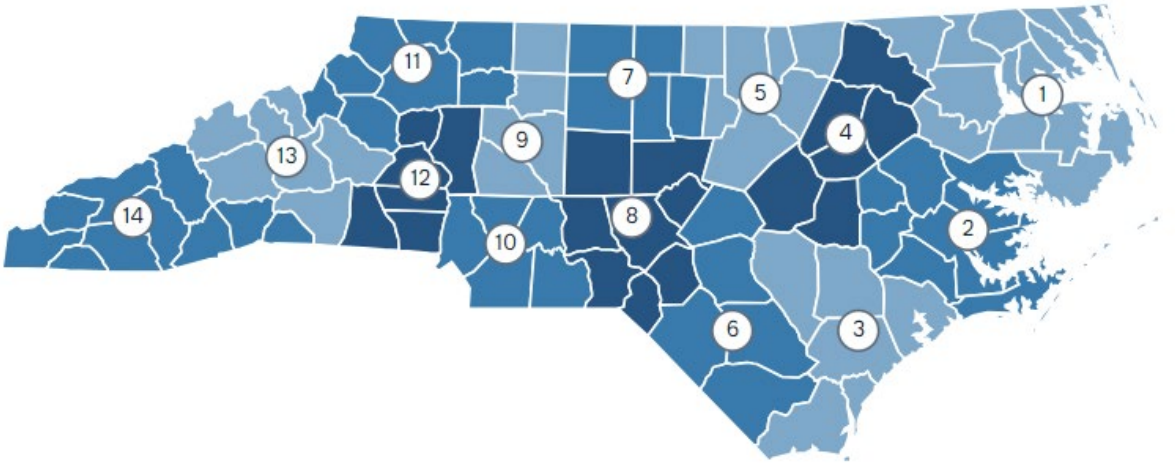
- 19 MPOs and 18 RPOs across six regions.
- Support statewide coordination and planning of transportation projects.
- Offer local input when scoring and prioritizing STIP projects, **including aviation projects**.
- Have a clear understanding of the aviation development needs in their planning region.
- Ongoing conversations between airport sponsors and MPOs/RPOs is important.

2.2.3. Highway Divisions (14 Divisions)

NCDOT owns the State's highway system, which allows Division of Highways to have the authority to relocate highways and provide connections to the airports that are within the public highway system. Airport sponsors often must work with the Division of Highways on changes to roadways in conjunction with airport development projects.

North Carolina has 14 Transportation Divisions as shown in **Figure 2-3**. Each division is led by a NCDOT Division Engineer, which have a similar role as the MPOs/RPOs in collecting public input and assigning local input points in the scoring of transportation projects for the STIP. NCDOT combines the scores calculated by MPO/RPO members and Division Engineers to generate the total number of local input points for regional and division-level projects.

Figure 2-3. NCDOT Highway Divisions



2.2.4. NCDOT Right-of-Way Unit

NCDOT Aviation staff are often required to coordinate with the Right-of-Way unit in conjunction with the NCDOT Division of Highways when airport projects require appraisals for land acquisitions or require right-of-way access. Airport sponsors should coordinate directly with NCDOT Aviation if they have right-of-way questions or concerns.

2.2.5. Contract Standards and Development Unit

The Contract Standards and Development Unit sits within the Division of Highways and is responsible for reviewing prequalification of aviation consultants and contractors who do business with NCDOT Aviation. Additionally, this Unit develops work codes for NCDOT Aviation when needed.

2.2.6. Office of Civil Rights

The Office of Civil Rights is committed to promoting and ensuring equal access and equal opportunity for customers and employees that participate in transportation programs that receive state and/or federal funding. NCDOT Aviation primarily coordinates with the Office of Civil Rights for Disadvantaged Business Enterprise (DBE) goal setting for federal and state funds, Good Faith Effort reviews, and certification of DBE companies.

2.2.7. Office of Inspector General

The Office of Inspector General's role is to improve NCDOT's effectiveness and governance, which is executed by monitoring the Department's activities and upholding NCDOT's commitment to transparency, integrity, and accountability in all operations. NCDOT Aviation may interact with the Office of Inspector

General if an audit or other review is underway, or to evaluate risk management systems and internal controls.

2.2.8. Attorney General's Office

When requested, the NCDOT Attorney General's Office provides NCDOT officials legal counsel and can intervene in proceedings of the court or represent other NCDOT departments or the organization as a whole. In addition, NCDOT Attorney General's Office also provides counsel on transportation policies for the governor and other municipal and county attorneys on behalf of NCDOT.

2.2.9. Office of Finance and Budget

The Office of Finance and Budget is responsible for overseeing the state appropriations necessary for building and maintaining the state's transportation network. NCDOT Aviation coordinates with the Office of Finance and Budget frequently as it pertains to state funding for airports.

2.2.10. Communications Office

A communications officer is assigned to the aviation group and sits in NCDOT Aviation to support communications needs initiated from NCDOT Aviation.

2.3. Other State and Regional Agencies

In addition to the numerous NCDOT divisions and offices summarized above, there are other state and regional agencies that coordinate often with NCDOT Aviation. It is important to note that this is not an all-inclusive list, and NCDOT Aviation may be required to coordinate with agencies not included here.

- **Office of State Budget and Management (OSBM):** Receives federal funding associated with the FAA AIP and directs that funding to NCDOT Aviation for NCDOT Aviation to oversee and distribute.
- **Department of Commerce**: Works in conjunction with the Economic Development Partnership of North Carolina and is the lead agency for economic development in the State. The Department actively recruits aerospace and aeronautical companies to locate on airports in North Carolina. One of the grants administered by the Department of Commerce is Golden LEAD Foundation. More information on this grant program is provided in **Section 3.1.4**.
- **Economic Development Partnership of North Carolina (EDPNC)**: EDPNC helps businesses of all sizes succeed in NC. They focus on recruiting new businesses to the state, supporting the growth of existing NC businesses, helping manufacturers sell into international markets, providing startup assistance to entrepreneurs, and marketing the state as a premier travel destination. EDPNC works closely with public- and private-sector partners at the state, regional, and local levels, including coordination with NCDOT Aviation.
- **Department of Administration, Division of Purchase and Contract:** Provides guidance for contracting and rules for procurement for vendor services and goods in the state.
- **Department of Administration, State Environmental Review Clearinghouse:** The North Carolina Environmental Policy Act of 1971 (G.S. 113A 1-13) sets forth NEPA-like rules for the environmental review of state projects. The NC Department of Administration is tasked with coordinating the administrative requirements of SEPA. These include the review of both state

projects and non-state projects by commenting agencies[5], for which NCDOT Department of Administration maintains an Environmental Review Clearinghouse to coordinate the review process. Under NC SEPA law, actions that are categorically excluded under NEPA are considered to meet the requirements of SEPA. Actions for which a federal EA or EIS are warranted will concurrently meet the requirements of SEPA as long as the NEPA document is reviewed through the Clearinghouse process. Actions which are not subject to NEPA may still be subject to SEPA. Sponsors should coordinate with NCDOT Aviation to determine if state environmental review requirements may apply to actions which are not subject to NEPA.

- **Department of Environmental Quality (NCDEQ):** Responsible for administering regulatory programs designed to protect air quality, water quality, and the public's health. NCDEQ also offers technical assistance to local governments, business, other state agencies, and other stakeholders.
- **Wildlife Resources Commission (NCWRC):** In fulfilling their responsibility to manage for wildlife hazards on airports, sponsors must obtain depredation permit for NCWRC for the legal taking of any mammals or game birds. NCWRC also has a role in the protection and management of species listed under the State Endangered Species Act (G.S. 113-331 to 113-337), which must be considered under NEPA and SEPA.
- **Department of Natural and Cultural Resources, State Historic Preservation Office:** The State Historic Preservation Office (NC SHPO) and the NC Natural Heritage Program (NCNHP) are both within the NC Department of Natural and Cultural Resources. NCSHPO has oversight of state and federal laws protecting historic and cultural resources, which much be considered under NEPA and SEPA. NCNHP identifies and manages the state's natural areas, which are important for conservation of the natural biodiversity of NC under G.S. § 143B-135.250. - § 143B-135.272. NCNHP also manages a significant amount of conservation data for the state, taking a role in the protection and management of species listed under the State and Federal Endangered Species Acts, which must be considered under NEPA and SEPA.

2.4. Airport Sponsors

All airport sponsors in North Carolina have obligations and responsibilities to ensure the safe operation of their airports. Sponsors are responsible for the daily maintenance of their airports and supervision of operational activities as well as budgeting and financial dealings. The responsibility to perform maintenance duties is also associated with airport grant assurances.

What is an airport sponsor?

An airport sponsor is a public agency such as a city or county, or other owner such as an airport authority, who controls a public-use airport.

Airport sponsors are financially and legally responsible for their airport and own the airport land parcel. The FAA selects airport sponsors.

2.4.1. NPIAS Airports

According to the most current 2023-2027 NPIAS report, all 72 airports recognized in North Carolina's aviation system

[5] Agencies include: Department of Environment Quality (DEQ), Regional Offices (Air Quality, Land Resources, Water Quality, and Groundwater), Environmental Health, Parks and Recreation, Department of Agriculture, Natural Heritage Program, Wildlife Fisheries (DWF), Coastal Management (DCM), Wildlife Resources Commission (WRC), Forest Service, State Historic Preservation Office (HPO), Department of Public Safety, Department of Cultural Resources, Division of Emergency Management – National Flood Insurance Program (CC&PS, DEM – NFIP), NCDOT's Transportation Planning Branch (TPB), Appropriate Councils of Government (COG).

are included in the NPIAS. These NPIAS airports must comply with several federal and state obligations and requirements, which are summarized here:

2.4.1.1. Federal Requirements for NPIAS Airports

- **Compliance with Federal Grant Assurances**: Federal aid programs carry certain obligations on the part of the local government receiving funds. Airport sponsors are obligated to the FAA for past grants. Grant assurance obligations extend 20 years with each new grant accepted. Grant assurances are also associated with Sponsor Certificates and Special Provisions.
    - **Grant Sponsor Certificates:** Sponsor certificates do not vary based on project scope and must be signed with each federally funded grant.
    - **Grant Special Provisions**: Special provisions are project specific, and some require additional information. These must also be signed by the airport sponsor before a grant can be fully executed.
- **Up-to-date Airport Layout Plan (ALP)**: Sponsors are responsible for the long-term development planning of the airport. NPIAS airports must closely follow FAA design standards in planning the development of their airport. These standards are included in FAA AC 150/5300- 13B, Airport Design. Preparation of the Airport Master Plan and ALP should be in accordance with FAA AC 150/5070-6B – Airport Master Plans and FAA AC 150/5000-17 – Critical Aircraft and Regular Use Determination.

NCDOT Aviation recommends airports update their ALPs at least every 10 years, or as necessary due to build out.

- **Obstruction Clearance**. Sponsors are responsible for keeping their runway approaches clear of obstructions to meet the required FAA standards found in Section 3.3.2.c of FAA Order 8260.3F, United States Standard for Terminal Instrument Procedures (TERPS).
- **Federal Aviation Regulations (FAR) Part 77 Height Restrictions and Land Use Zoning**. Airport sponsors may work with local (city, county, and regional) planning offices to establish and enforce local ordinances regarding height restrictions around the airport and ensure land use plans and airport overlay zones support compatible land use around airports.
- **Airport Minimum Operating Standards and Rules and Regulations**. To promote safe and efficient use of the airport, sound business practices, and high-quality services to the public, airports are federally obligated to set forth minimum requirements for businesses providing aeronautical services to the public.
- **Selection of Consultants**. Airport sponsors are required to select consultants that will result in high-quality services at a reasonable expense. Guidelines for formal and informal consultant selection can be found in **Appendix B: Guide to Consultant Selection.**
- **Airport Capital Improvement Plan (ACIP)**: The FAA requires sponsors to submit their own ACIP every year outlining a five-year plan. This assists the FAA in planning its ACIP. As a part of the SBGP, NCDOT Aviation is responsible for compiling the state's five-year ACIP.

2.4.1.2. State Requirements for NPIAS Airports

- **Compliance with Aviation Block Grant Assurances**: As one of ten block grant states, NCDOT Aviation administers AIP funds to Non-Primary airports. Therefore, sponsors of these airports must accept Aviation Block Grant Assurances.

- **Compliance with NC GS Chapter 63. Article 1 and 6:** Authorizes cities, towns, and counties to establish public airports while Article 6 defines the powers of municipalities in operating the airport.
- **Article 4 of NC GS 63 - Model Airport Zoning Act:** Provides height and land use zoning guidance to airport sponsors but does not contain state requirements for zoning around airports; however, it provides the enabling legislature for appropriate authorities.
- **Participation in the Five-Year ACIP.** The ACIP identifies and prioritizes projects for all airports in the system. Submission of airport projects to the ACIP is needed to secure federal, state, and local project funding. These are usually submitted to NCDOT Aviation via the online Enterprise Business Services (EBS) portal prior to the beginning of each fiscal year. Additional information on state funding programs is provided in **Chapter 3: State Programs and Funding Sources**.

Sponsors should understand their role in the state airport system, the NCDOT Aviation's project prioritization system, and which airport development projects are eligible and ineligible for funding.

- **Adherence to the NCDOT Aviation's Airport Development Plan (ADP).** NCDOT Aviation has established airport system objectives regarding airport development. **Chapter 4: Airport Development** covers the North Carolina State Airport System Plan (NCASP) in more detail.
- **Selection of Consultants.** North Carolina G.S. § 143-64.31 Procurement of Architectural, Engineering, and Surveying Services requires the same guidelines for airport sponsors as federal requirements.

2.4.2. Privately Owned – Public Use/Non-NPIAS Airports

There are more than 300 privately owned airports in the State. These airports are considered non-NPIAS airports and do not receive federal or state funding and, therefore, are not required to adhere to many of the items listed previously. However, all privately owned airports should maintain the safest operating environment possible for the pilots and aircraft utilizing their facilities. Non-NPIAS airports can participate in several NCDOT Aviation programs including the Turf Runway Marking Program, Windsock Program, Safety and Education Program, and Wildlife Hazard Training. Privately owned pubic-use airports also receive airport safety inspections and can utilize the height zoning model found in NC GS 63.

Chapter 3. State Funding Sources and Programs

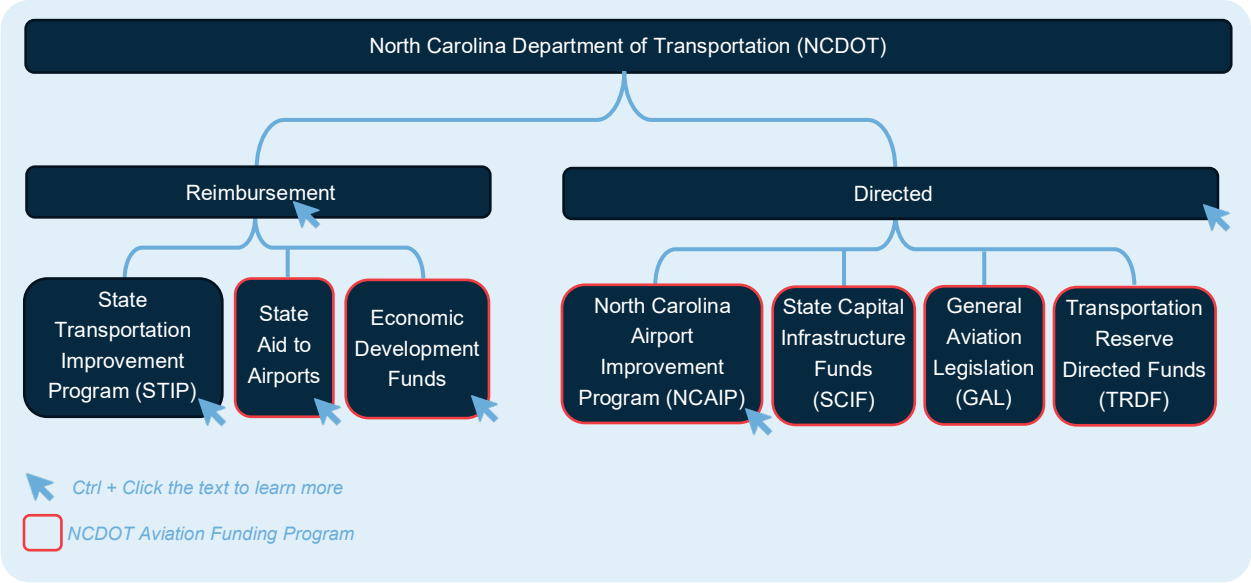
The NCDOT Aviation is committed to supporting the changing needs of the 72 public-use airports in the state; therefore, NCDOT Aviation offers numerous funding sources and programs that improve safety, support ongoing maintenance needs, provide opportunities for capital improvements, and address emerging innovative technologies. This chapter provides an overview of the funding sources available to airports at the state level and documents other NCDOT Aviation programs that aim to improve and optimize the state's aviation system. While the airport sponsor is responsible for the project justification, oversight of design and construction of projects, and managing the grant process, many of the project-related costs are eligible for state and/or federal aid.

> Airports can use a combination of federal, state, and local funds to ensure their airports are maintained satisfactorily, meet federal safety standards, and accommodate demand.

3.1. NCDOT Funding Sources

Figure 3-1 provides an overview of the NCDOT funding sources summarized in this chapter. In addition to the state funding sources, public-use airports are also eligible to receive federal funding. More information regarding federal programs is shared in **Chapter 4. Federal Funding Sources and Programs**. NCDOT Connect website also provides an overview and matrix of state and federal funding sources.

Figure 3-1. Overview of NCDOT Funding Sources



Source: Kimley-Horn

3.1.1. NCDOT Reimbursement Grants

There are three funding sources available to airports that are reimbursement grants, which include, the **State Transportation Improvement Program (STIP)**, **State Aid to Airports** and the **N.C. Airport Economic Development Fund**. Reimbursement programs mean the expense comes before the payment and the funds are awarded based on estimates of the project cost, but funding is only paid for eligible invoicing. The AV-103 Form, available on the NCDOT Connect website, lists the documentation required to submit a reimbursement request for the State Aid to Airports and Economic Development Fund programs. The STIP program follows a separate funding request. Airports must meet eligibility requirements and other State requirements in order to receive their reimbursement.

3.1.1.1. State Transportation Improvement Program (STIP)

The Strategic Transportation Investment Program (STIP) is an output of the Strategic Transportation Investments (STI) Law, signed by Governor McCrory in July of 2013. As mentioned in **Chapter 2. Roles and Responsibilities**, NCDOT is responsible for administering the STIP, which includes long-term capital improvement planning and funding distribution for six modes of transportation, including aviation.[6] The focus of STIP funding is for capital improvement projects, modernization projects, or projects that increase capacity, such as a taxiway or runway extension. As a reimbursement grant, STIP requires that funds be paid as work is actively underway.

STI funds projects in three categories: Statewide Mobility, Regional Impact, and Division Needs. As shown in **Table 3-1,** most NC airports fit in the Division Needs category and the focus of projects awarded in this category are those that address local needs.

Table 3-1. STI Airport Eligibility Categories

Eligibility Category	Project Focus	Airport Type
Statewide Mobility (5 airports)	Address significant congestion	Primary airports that provide international passenger service or record 375,000 or more passenger enplanements per year.
Regional Impacts (5 airports)	Improve connectivity within regions	Primary airports that do not provide international service and record fewer than 375,000 annual passenger enplanements.
Division Needs (62 airports)	Address local needs	All publicly owned Non-Primary airports (GA) in the NPIAS.

Each project competing for STI funding will be scored using criteria set by the separate modes. The Strategic Prioritization Office (SPOT) is responsible for developing and administering the prioritization process for all STIP projects. Once projects are scored, the projects in the Regional and Division eligibility categories are evaluated and points are assigned by the appropriate NCDOT Division Engineers, Metropolitan Planning Organizations (MPOs), or Rural Planning Organizations (RPOs). The Division Engineers and MPOs/RPOs have a predetermined total number of points to assign to various projects

[6] Other modes include highway, bike and pedestrian, rail, ferry, and public transit)

and modes. Once these points are assigned and projects are scored, funding is assigned to the projects with the highest scores and the year a selected project is expected to be programmed in the STIP is also determined (over 10 years).

In order for a project to be considered for STI funding, an airport must still enter all projects without regard to funding source into the NC EBS portal. Once the project is entered and supporting documents are uploaded, the project will be vetted and scored by the NCDOT Aviation and SPOT Office. The scores are based on the quantitative merits of the project. These scores are then combined with the Division Engineer and MPO/RPO points for a final score. One area that the Sponsor can affect the score is the amount of local funds put forward for that project.

A $500,000 cap per project per year is the legislative limit placed on Primary airports in the Statewide eligibility category, while Primary airports in the Regional eligibility category are capped at $300,000 per project per year. In addition, Non-primary airports (the Division eligibility category) are capped at $18.5 million to be programmed across the entire category per year. The STI program cycle is approximately every two years.

3.1.1.2. State Aid to Airports

State Aid to Airports is the State funding program of the NCDOT Aviation, which is authorized under NC GS Chapter 63. The State Aid to Airports Program funds projects that are needed to meet North Carolina Aviation System Plan (NCASP) goals and objectives, and funding is provided as reimbursement grants. The goals of the NCASP are tied to the broader goal categories defined in the 2040 North Carolina Statewide Transportation Plan, which include Safety, Infrastructure Health, and Mobility. State Aid to Airports funds are typically available to Non-Primary airports and require NCDOT Board of Transportation (BOT) approval. This approval is coordinated in partnership with the Airport Sponsor and the NCDOT Aviation Airport Project Manager (APM). NCDOT Aviation prioritizes these grants annually based on available budget and typically provides 90 percent project funding, with the remaining 10 percent as a local match. A State Aid to Airports award requires the sponsor to submit a Request for Aid (RFA) within 120 days or submit a reason for the delay. NCDOT Aviation will work to close grants with no billings after 18 months. Sponsors must submit a reason for delays to request to keep funds. State Aid funds can be paid after work is complete.

Local Funding Information:

In most cases, local governments or sponsors are required to match 10 percent of funds for reimbursable grants, unless the project meets requirements for the Safety Enhancement program. Local match is not required for Directed Funds (NCAIP, SCIF, GAL, and TRDF).

Airport Sponsors are encouraged to coordinate with their NCDOT APM to confirm the local match obligation for their projects.

Once a project request is submitted in the EBS Portal for State Aid funds, the project is evaluated using variables built into the EBS system that prioritizes projects based on North American Industry Classification System (NAICS) code, airport rank, and project type.[7] Further delineation is based on readiness, local match, and available funds. More information on the NCDOT Aviation's project

[7] Project type is based on the North Carolina Airport System Plan (NCASP) goal that the project most closely corresponds to.

prioritization processes can be found in **Appendix I. Project Priority Rating System.** Safety Enhancement Match

The Safety Enhancement Match program is a component of the State Aid to Airports program where funds can be used as a local match for safety projects at Green airports, as designated by the NCASP Airport Grouping Methodology. The match can also be used to cover nonfederal share of eligible federally-funded projects for Green airports. According to the latest NCASP Airport Grouping Methodology, there are 20 Green airports, which are considered small community airports that are located in primarily rural and economically distressed counties. These enhancements are expected to accelerate the impact of state infrastructure funds by reducing implementation barriers, resulting in more efficient completion of high-need projects across North Carolina. Needed projects will be delivered more quickly and efficiently. Safety Enhancement Match funds can be paid after work is complete.

3.1.1.3. Economic Development Funds

The NC Airport Economic Development Grant provides grants for time-sensitive economic development projects at general aviation airports that create new jobs and investment in the local communities. Economic Development grants are available only to Non-Primary airports and require NCDOT Board of Transportation approval. These funds are typically awarded at 100 percent to supplement local or private investments. Airport Sponsors may request an application form from their APM and submit that completed form to their APM for funding considerations for an economic development project. The application process uses a quantitative analysis, then a qualitative analysis, to select projects for funding. The APM is responsible for working with other NCDOT Aviation team members to guide the airport through the application process.

The North Carolina Project Summary Form must be submitted through the airport's NCDOT Aviation APM. The form requests information on:

- Project costs and sources of funding (total project costs and funds requested from NCDOT and all other private, local, state, or other funds).
- Total jobs resulting from the completion of the project (by job type over a 12-year time period).
- Average salary by job type.
- Timeline of expected project expenditures.

The submission must include a statement on company letterhead signed by a company executive stating that the airport project is a deciding factor for its increased business activity. NCDOT Aviation may request additional information to enable a thorough review of the proposed project. Projects that include business expansion, business relocation, or improvements to the airport that result in net new job growth for the state are eligible to apply for the grant. A flow chart offering more details on applying for and receiving funds under this program can be found at the N.C. Airports Economic Development Fund Overview document, found on the N.C. Airport Economic Development Fund landing page.

3.1.2. NCDOT Aviation Directed Funds

Directed funding programs are appropriations from the general assembly to specific airports from the state budget. The funds are dispersed at intervals determined by the general assembly throughout a designated fiscal year to the airport. There is no NCDOT BOT approval required for Directed Funds. All federal, state, and local laws apply to the programs summarized here, including state guidelines such as Buy American, Maximum Allowable Non-Salary Direct Costs, Prequalified Contractors, audited overhead rates, and more. Airport Sponsors should contact their assigned APM with specific questions.

> Federally obligated airports are also required to follow FAA Policies, Standards and Specifications applicable to the project(s) when receiving Directed Funds. Otherwise, future maintenance may not be eligible for federal funding.

The following subsection provides a summary of the North Carolina Airport Improvement Program (NCAIP), which is one of a few Directed Funds programs available to NC Airports. Other programs include the State Capital Infrastructure Fund (SCIF), General Aviation Legislation (GAL) Fund, and the Transportation Reserve Directed Fund (TRDF) programs. More information on SCIF, GAL, and TRDF can be found by reviewing the Directed Funding Tips document.

3.1.2.1. North Carolina Airport Improvement Program (NCAIP)

The NCAIP is a legislatively established program for Primary airports to (1) fund improvements at eligible airports and (2) pay debt service or related financing cost and expenses on revenue bonds or notes issued by eligible airports. NCAIP funds must be encumbered or spent by a date typically identified in legislation. North Carolina State University Institute for Transportation Research and Education (NCSU ITRE) determines allocations using a formula-based approach that focuses on the economic impact of the airport and the number of enplanements. The formula is confirmed in NC General Statute 63-74.

In addition to the funding sources provided by NCDOT, there are two other statewide programs, separate from NCDOT, that may provide funding opportunities to airports in NC, which include the State Infrastructure Bank (SIB) and the Golden LEAF foundation.

3.1.3. State Infrastructure Bank (SIB)

The SIB Program gives states the capacity to increase the efficiency of their transportation investment and significantly leverage federal resources by attracting non-federal public and private investment. The federal program allows states to enter into agreements with the U.S. Department of Transportation (USDOT) Secretary of Transportation to establish infrastructure revolving funds eligible to be capitalized with federal transportation funds. The North Carolina SIB, established in 1997 by General Statute 136-18, was capitalized with federal funds under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The SIB created revolving credit assistance funds using apportioned federal and State funds. Its purpose is to assist projects that have a source of revenue but need either short-term financial assistance or long-term financing. SIB repayments go back into the SIB for transportation use only. The North Carolina SIB provides low-interest loans and credit enhancements such as lines of credit, letters of credit, bond insurance, and capital reserves.

3.1.4. Golden LEAF Foundation

The Golden LEAF Foundation is devoted to advancing the economic well-being of North Carolina and to transforming its economy. Founded in 1999, the foundation was created to receive half of the funds coming to North Carolina as a result of the master settlement agreement with cigarette manufacturers. There are two main grant programs utilized by Golden LEAF: Open Grants Program and Economic Catalyst Cycle. The Open Grants Program places high priority on the areas of agriculture, job creation and retentions, and workforce preparedness. The Economic Catalyst Cycle program focuses on job creation and/or retention projects associated with business locations or expansions in North Carolina that are at risk without participation of Golden LEAF. For more information on this program visit the Golden LEAF Foundation website.

3.2. State Programs

In addition to providing, or administering, numerous funding sources, NCDOT Aviation offers a wide variety of programs that support aviation safety, maintenance, improvement, and technological advancement. Some of these programs provide material and equipment to airports, such as the Automated Weather Operating System (AWOS) Program and No Trespassing Sign Program, while others, like the North Carolina Airport Technical Assistance Program (NC AirTAP), is intended to provide educational resources to a variety of aviation stakeholders. The following subsections summarize the programs administered by NCDOT Aviation.

3.2.1. On Call Program

NCDOT Aviation utilizes On-Call programs, also referred to as Limited-Service Contracts, to provide consultant support to both NCDOT Aviation and General Aviation airports. These contracts are used for the following tasks: plan reviews, independent fee estimates, individual airport project support, environmental support tasks, staff training, stand operating procedure (SOP) development, finance support tasks, moderating stakeholder meetings, development of external guidance, development of quarterly newsletters, UAS support tasks, and more.

3.2.2. Safety, Preservation, and Maintenance Program (SPAM)

NCDOT Aviation established SPAM in 1992 to assist local governments in preserving and maintaining their airfield facilities. This assistance is conducted through minor airfield maintenance and safety correction projects that utilize both State staff and on-call consultants and contractors. Such projects include, but are not limited to, crack sealing, small pavement patching, pavement markings, seal coating, shoulder grading, erosion control, beacon rehab, rubber removal, and more. This work is conducted and funded directly by NCDOT Aviation. In order to participate in this program, each airport is required to have a current signed and sealed “Division of Aviation Airport Safety/Maintenance Program Agreement” on file before any work can proceed. This document indemnifies the NCDOT from liability and the contractors are required to have liability insurance as per the Standard Specification for Roads and Structures (SSRS). Airports should contact their Airport Project Manager with any project inquiry.

3.2.3. Airport Pavement Management Program

The Airport Pavement Management Program provides a central dashboard for storing and displaying pavement conditions data, including inspection results and Pavement Condition Index (PCI) scores by

section. This dashboard was developed to aid State agencies, municipalities, authorities, and airport managers in making data-driven decisions about construction, maintenance, and funding.

3.2.4. Wildlife Hazard Management Program

NCDOT Aviation created a Wildlife Hazard Management Program in 2004 in order to help minimize wildlife hazards at North Carolina airports and assist airports with meeting their federal grant assurances relating to the safe operating conditions, namely federal grant assurances 19 and 20. The program follows FAA guidance including AC 150/5200-33, Hazardous Wildlife Attractants On or Near Airports, as well as other FAA resources regarding this topic. NCDOT Aviation contracts with the U.S. Department of Agriculture's APHIS Wildlife Services to deliver this program. It includes wildlife hazard assessment site visits, emergency response and wildlife hazard training. Program details may be found in **Appendix D: NCDOT Aviation's Wildlife Hazard Management Program.**

3.2.5. AWOS Program

NCDOT Aviation has made a commitment to providing weather information to both the flying and general public by installing and maintaining a network of Automated Weather Observation Systems (AWOS) at numerous airports within the State. An AWOS is an array of weather collection equipment located on airport property that utilizes a computerized system to collect weather parameters every 20 minutes. Certain weather characteristics are particularly helpful to pilots, and the AWOS focuses on collecting those. Typical parameters include temperature, humidity, barometric pressure, visibility, and cloud ceiling, as well as wind speed and direction.

After collection, the system then formulates the information into a standardized report called a METAR (Meteorological Aerodrome Report). METARs are available in real time and are used by pilots during flight planning and while enroute to an airport in order to determine the conditions for aviation use at their destination. METARs can be received in-flight by using Very High Frequency (VHF) radio frequencies but are also available to the general public via phone, online, and through television displays at the airport itself. Additionally, all METARs can be uploaded to a central weather reporting location using an electronic link called NADIN – or National Airspace Data Interchange Network. The uploading of the data allows for weather bureaus, television stations, and other agencies to utilize and distribute the information collected.

The cost of installing and maintaining this weather equipment is significant and as such, NCDOT Aviation has a policy in place to maintain AWOS units at no cost and may replace units at no cost to the airport based on a qualified need. The program does not relocate or install the units at no cost to the airport. All of these activities are subject to funding availability. NCDOT Aviation's priority will be funding maintenance operations, replacement of existing units, and installation of new units, respectively. The NCDOT Aviation will provide at 100% state funding for the original AWOS equipment; installation and materials for installations and upgrades; routine maintenance and on a tri-annual basis, repairs when needed; and the NADIN data uplink. The Airport Sponsor is responsible for insuring the equipment against weather and acts of God, electrical power to the unit, land and clearing, and other minor costs. The full NCDOT Aviation AWOS policy is in **Appendix E: NCDOT Aviation AWOS Policy.**

3.2.6. Tracking Airport Logistics, Operations and Navigation System (TALONS)

NCDOT Aviation introduced the Tracking Airport Logistics, Operations and Navigation System (TALONS) in 2022. TALONS is an aircraft operations data service that utilizes hardware and software to count, track, and store real-time operations data for airports. It dramatically improves upon existing methods of tracking operations data and includes other features that enhance airport security, communications, and record keeping. This data service is available to all 72 publicly owned airports; however, it is primarily aimed at benefitting the 58 non-towered airports to fill a persistent data gap.

NCDOT Aviation benefits from having consistent aircraft operations data as it allows them to better prioritize and allocate state and federally funded grants for airport development projects. Improved aircraft traffic counts can also be applied to various planning studies including strategic development plans, airport layout plans, and airspace management practices.

TALONS reimburses airports 50% of the cost of installing and maintaining a pre-qualified counting service up to $3,000 a year Additional details about the reimbursement process, cost and performance requirements for airports and vendors, a list of prequalified vendors, and eligibility requirements can be found on the TALONS Fact Sheet.

3.2.7. Innovation in Airports

NCDOT Aviation is committed to supporting advancements in the aviation industry and fostering opportunities to integrate emerging technologies into the state's aviation system. NCDOT Aviation will provide updated guidance to airports regarding new and emerging technology, as needed. Airport sponsors should contact their APM if they have specific questions regarding aviation technology advancements.

3.2.8. Airport Professional Development and Workforce Enhancement Programs

NCDOT Aviation offers programs that prepare airport-related personnel to develop and operate safe, compliant airport facilities and support development of the State's aviation workforce.

3.2.8.1. North Carolina Airport Technical Assistance Program (NC AirTAP)

NC AirTAP is a program of NCDOT Aviation, managed on contract by the NCSU ITRE and supported by the North Carolina Airports Association. NC AirTAP provides educational programs and resources to help North Carolina's airport professionals stay up to date on industry changes and best practices, thus improving the safety and efficiency in the State's GA and commercial aviation facilities. Programs that are offered include the Airport Leadership and Management Program (ALMP), Airport Board Member Training (ABMT), and other Airport Training and Workshops.

Airport Leadership and Management Program (ALMP)

The ALMP is a resource for both new and experienced airport managers, offering 12 management courses on all aspects of airport operations. The courses are:

- Airport Rules, Regulations, Minimum Standards and Legal Issues
- Airport Administration and Governance
- Airport Operations and Maintenance
- Airport Funding and Finance
- Airport Safety and Security

- Airport Planning and Environmental
- The Fixed Base Operator
- Public Relations and Communications
- Airport Design and Construction
- Airport Leadership and Management Skills
- Future Airport Opportunities
- The Airport Consultant

Participants who complete nine of 12 courses earn the North Carolina Airport Professional (NCAP) credential.

Airport Board Member Training (ABMT)

The Airport Board Member Training (ABMT) is a series of 10 online modules intended to help new and current airport board members of North Carolina's public-use airports understand their roles and responsibilities in overseeing their public airport. The modules consist of topics including:

- The roles and responsibilities of airport board members, types of airport ownership, and how airport boards can be organized
- North Carolina's role in the FAA National Plan of Integrated Airport Systems (NPIAS)
- The basic facilities and equipment that are required to make an airport run
- Minimum standards for airport tenants and users
- Developing rules and regulations for safe and efficient operation of the airport
- Programs, services, and resources available from the NCDOT Aviation, the FAA, and other organizations to assist airports with facility planning, operations, and staff training
- Airside Operations; Terminal Operations; Air Traffic Ramp Operations; Parking and Ground Transportation; Security; Emergency Management; and Media Relations
- Determining infrastructure needs for an airport to meet forecasted demand
- The legal obligations of airport owners that accept grant funding from the FAA and the State of North Carolina
- Financial best practices

Airport Training and Workshops

NC AirTAP also develops and offers other workshops periodically to respond to the needs of airport professionals such as:

- Airport Safety and Maintenance Workshop: A one-day, in-person workshop covering airport self-inspections, airfield pavement inspections and maintenance, lighting maintenance and repairs, and severe weather preparedness.
- Trusted Operator Program (TOP) Drone Program: Provides a certification process for pilots beyond their FAA Part 107. Students that complete a drone operator training program at NCSU automatically become TOP certified as well, since NCSU is a TOP-certification organization.
- Airport Fueling Operations Workshop: A one-day, in-person workshop including training on fueling operations, inspection of fuel farms/equipment and vehicles, and best practices.

3.2.8.2. Aviation Career Education (ACE) Academy Program

NCDOT offers the ACE Academy Program, in alignment with the FAA's ACE Academy Program, to engage young people in aviation and inspire the next generation of aviation talent. The program provides grants of up to $3,000 per academy for public airports that host aviation career-focused summer camps for elementary, middle school and high school students. These grants support programming that inspires young people to explore and pursue one of the many rewarding careers in aviation or the aerospace sector. All 72 public-use airports are eligible for this program, and airports are encouraged to team with local education or non-profit organizations to benefit from their expertise in educating young people and encouraging strong airport community connections. Additional information related to requirements and funding usage is provided here.

3.2.8.3. North Carolina Aviation Art Contest

NCDOT Aviation hosts the North Carolina Aviation Art Contest every year to engage and inspire the next generation of aviation professionals and enthusiasts. The contest is open to all elementary, middle school and high school students. The top three winners in three categories – junior, intermediate, and senior – receive cash prizes and statewide recognition. They also advance to the national competition, sponsored by the National Association of State Aviation Officials. Winners of the national contest advance to the international competition held in Switzerland.

3.2.9. Windsock Program

In the interest of reducing weather-related landing accidents caused by wind direction and magnitude, NCDOT Aviation has a program to provide windsocks, either free or at cost, to airports in North Carolina. To request a windsock, airports should determine which windsock they are eligible for, download and complete the appropriate request form, and submit it to the NCDOT Aviation. The requestor should be an owner or the manager of the airport requesting the windsock.

All public use airports in North Carolina are eligible to receive free windsocks at no cost to the airports, as funding is available, once they complete the windsock request form.

3.2.10. No Trespassing Sign Program

The NCDOT Aviation provides "NO TRESPASSING SIGNS**"** for new fencing projects and maintenance of existing fencing at no cost to the airport. Three different sign options are available to airports, and airports can request up to 10 of each sign type per state fiscal year, as funding is available. To request signage airports must complete a NCDOT Aviation No Trespassing Sign Request Form, which can be provided by the APM. NCDOT Aviation also provides additional guidance on the targeted placement and spacing of the signs. The available sign options, sizes, and placement criteria are as follows:

- The **"NO TRESPASSING"** sign should be located and installed on all airport perimeter fence gates. This sign is available in two sizes: 18" x 24" and 30" x 24".
- The **"NO TRESPASSING: VIOLATORS WILL BE PROSECUTED"** sign should be located and installed on perimeter fences of the airport with a maximum spacing of 500 feet between the signs and generally where at least one sign is visible from anywhere outside the fence. This sign is available in one size: 18" x 18".
- The **"RESTRICTED AREA"** sign should be located and installed on gates accessing aircraft aprons and terminal areas of the airport. This sign is available in one size: 18" x 18".

3.2.11. Turf Runway Marking Program

NCDOT Aviation has a program to provide yellow plastic cones for marking turf runways to increase airport safety. These cones mark the runway similar to runway lighting. They also help maintain runway dimensions throughout mowing. The cones are provided to both public-use and private-use airports, regardless of whether the ownership is private or public. Public-use airports are given the cones free of charge, as funding is available. Private-use airports can purchase the cones for $20.00 each. NCDOT Aviation provides additional guidance on the placement and spacing of the cones.

3.2.12. State Airport Guide and Aeronautical Charts

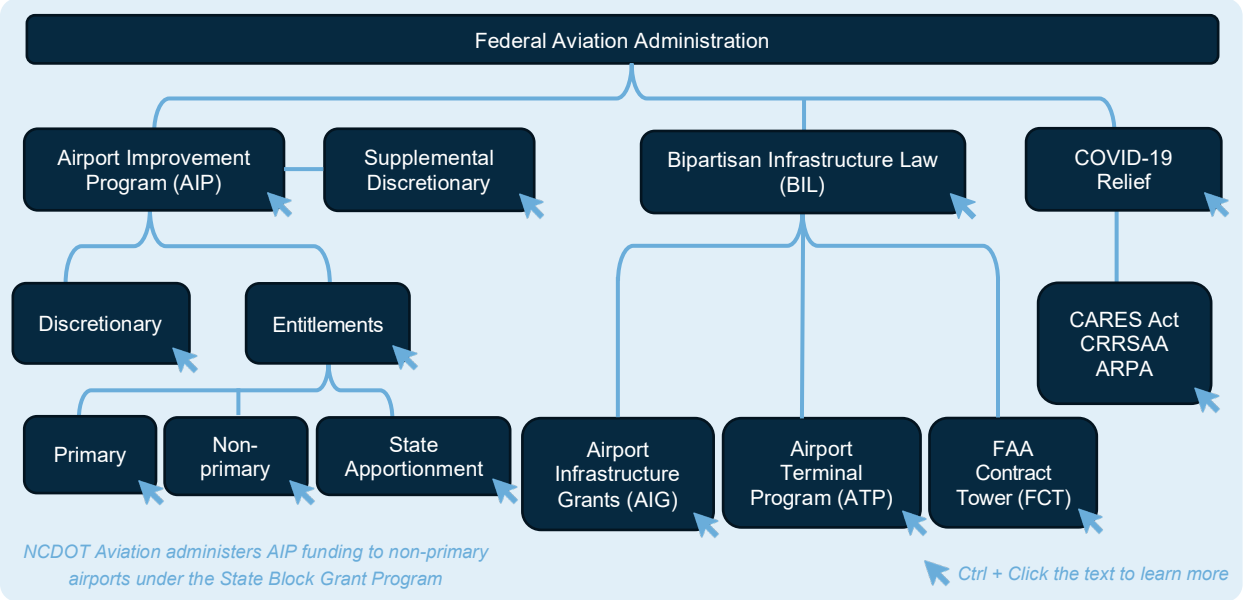
NCDOT Aviation publishes the North Carolina Airport Guide and NC Aeronautical Charts routinely. The guide provides an aerial layout of each of the public-use airports in the State, as well as detailed information on communications, facilities, and services provided at each airport. This guide serves as a planning tool for pilots when preparing for a flight.

Any interested party can request a copy of the North Carolina Airport Guide, as well as the North Carolina Aeronautical Chart, on the NCDOT Aviation Publications webpage.

Chapter 4. Federal Funding Sources and Programs

In addition to the state funding sources and programs presented in **Chapter 3. State Funding Sources and Programs,** airports have a variety of federal funding sources available to them. The primary funding mechanism is the FAA AIP; however, other funding programs under the Bipartisan Infrastructure Law (BIL), and COVID-19 funding sources, are also presented in this chapter, as shown in **Figure 4-1**.

Figure 4-1. Overview of FAA Funding Sources



Source: Kimley-Horn

4.1. FAA Airport Improvement Program (AIP)

The FAA's AIP funding is available to airports that are classified in the NPIAS. The AIP provides funds for projects to improve infrastructure, including land purchases, runways, taxiways, aprons, lighting, navigational aids, safety, and security.[8] The AIP is funded entirely by aviation-related fees and taxes such as airline ticket taxes, segment and international travel fees, cargo fees, and aircraft fuel taxes that are deposited into the Airport and Airway Trust Fund. For funding allocation, the FAA classifies airports as Primary (airports offering commercial service with enplanements of 10,000 or more) or Non-Primary (NPIAS GA airports and commercial service airports that do not meet primary airport status). Non-NPIAS airports, and airports in the Unclassified category, as defined by the bi-annual NPIAS, are not eligible for federal funding.[9]

The AIP Handbook is a great resource that offers program guidance and outlines policy and procedures for administering the AIP.

As one of 10 states that participate in the FAA's State Block Grant Program (SBGP), NCDOT Aviation assumes the responsibility for administering AIP funds to airports classified as Non-Primary. For these airports, NCDOT Aviation

[8]

[9] NPIAS Unclassified facilities are currently included in the NPIAS; however, these facilities see limited activity and do not meet minimum requirements for other NPIAS categories (Basic, Local, Regional, and National).

acts as the conduit by which airport sponsors apply for FAA funding of airport development projects, and through which airport sponsors receive federal funds for reimbursement. The NCDOT Aviation acts in a similar manner as the FAA does during project development: from initial planning of each project to reviewing and approving project design, to processing grant applications, through construction of the project, to approving payment requests, and finally, acceptance for closing out each project. Conversely, federal funding for Primary airports in North Carolina is allocated and administered by the FAA. More information, and requirements, associated with the SBGP is provided **Chapter 2. Roles and Responsibilities**.

4.1.1. Entitlements

Entitlement funding makes up two-thirds of all AIP funding and includes Primary Entitlements, which includes Passenger Entitlements and Cargo Entitlements, and Non-Primary Entitlements (NPEs).

4.1.1.1. Primary Entitlements

The largest portion of the AIP Apportionment funding is set aside for passenger entitlements for primary airports. The FAA classifies the 10 commercial service airports in North Carolina as Primary airports. The airport improvement projects for primary airports are funded directly through the FAA's AIP program and submitted to the FAA Memphis ADO for review and/or funding. The FAA administers Primary airport funding grants.

Passenger Entitlements

Primary airports receive Primary entitlement money every year based on the number of passengers boardings from calendar year two years prior.

Cargo Entitlements

Primary airports in North Carolina also qualify for cargo entitlements based on the previous calendar year's cargo landed weight as a percent of the total national landed weight.

4.1.1.2. Non-Primary Entitlements (NPE)

Non-Primary airports, which include GA airports and commercial service airports with fewer than 10,000 enplanements, also receive an annual allotment of funding referred to as NPEs. More information regarding funding levels for the NPE program can be found in the **AIP Handbook**. NPEs account for 20% of the total federal AIP funds on the national level. NPEs are designated for use at specific airports; however, projects must be eligible and justified and shown on the ALP. The NPE can be carried over and accumulated, but they expire in four years. NCDOT Aviation APMs work closely with the airports to determine the best use of NPEs. NPEs can be used in conjunction with other funding sources on projects.

4.1.1.3. State Apportionment

State apportionment funds can be used for a variety of AIP eligible projects. In North Carolina, as a participant in the FAA's SBGP, these funds are administered at the state level, but projects must be identified annually, and the FAA provides final approval. NCDOT Aviation uses its prioritization process as well as the FAA's prioritization to choose which projects receive this funding. State apportionment funding is only for non-primary airports.

4.1.2. Discretionary

After distributing apportionments, the balance of the FAA AIP funding is dedicated to discretionary funding. Discretionary funding is subject to the following set-aside requirements:

- Noise: This set-aside is dedicated to noise mitigation and other environmental mitigation required by FAA in NEPA.
- Military Airport Program: This set-aside is dedicated to former military airfields that meet specific eligibility criteria or joint-use airports.
- Reliever airports: This set-aside is dedicated to reliever airports in metropolitan areas affected by flight delays.

Once the set-asides are allocated, the remainder of the discretionary funds is considered "pure" discretionary. Each year, the FAA identifies a candidate pool of the highest priority projects based on a national priority ranking and other qualitative factors by region and distributes these funds to the regions.

In North Carolina, the FAA awards and administers discretionary funding to the Primary airports. The FAA works closely with NCDOT Aviation to award discretionary funds to the Non-Primary airports. However, as a Block Grant State, NCDOT Aviation oversees and administers the discretionary funds to the Non-Primary NPIAS airports in the State.

4.1.3. Supplemental Discretionary

The FAA announces the opportunity to apply for competitive Supplemental Discretionary grants every year via a Notice of Funding Opportunity (NOFO). The purpose of the supplemental discretionary grant program is to provide grants to eligible airports for airport construction projects, associated airport capital planning, noise planning and noise mitigation projects, and energy and environmental sustainability projects. Supplemental Discretionary funds are derived from the General Fund and are not subject to existing AIP discretionary formulas or set asides. Instead, the FAA's ACIP process was used to develop a proposed list of eligible and justified projects, which will be executed through the regular AIP process. The Supplemental Discretionary funds are available for award through FY 2024, and after selection, the funds are administered by NCDOT Aviation through the SBG program. This program, including its name, may be changed in the future, and will be updated as needed.

4.2. Bipartisan Infrastructure Law (BIL)

The Bipartisan Infrastructure Law (BIL), **also referred to as the** Infrastructure Investment and Jobs Act (IIJA), is a United States federal statute enacted by the 117th United States Congress and signed into law by President Joe Biden on November 15, 2021. The BIL created three types of funds to be issued each year for five years.

BIL funding does not require NCDOT Board of Transportation (BOT) approval.

4.2.1. Airport Infrastructure Grants (AIG)

FAA's Office of Airports (ARP) is administering approximately $20 billion of BIL funds to airport sponsors via the Airport Infrastructure Grant (AIG) starting in FY 2022. The $20 billion has been allocated over five years ($4 billion annually).

Funds are available to sponsors of airports as defined in 47102 of title 49, United States Code (U.S.C.); that is, airport sponsors meeting statutory and policy requirements under this section and identified in the FAA's NPIAS, updated with current year data, are eligible to receive discretionary funds per 49 U.S.C. 47115.

FAA announces fiscal year allocations per airport based on the AIG program formula. NCDOT Aviation will apply on behalf of N.C.'s Non-Primary airports for federal AIG funds as airports are ready to collect them. Similar to AIP NPE funds, AIG funds also expire after 4 years. NCDOT Aviation collects application requests and submits, as allowable, to FAA for approval. FAA does not accept applications from July through October.

4.2.2. Airport Terminal Program (ATP)

Through the Airport Terminal Program (ATP) under BIL, $5 billion was granted to provide competitive grants for airport terminal development projects that address the aging infrastructure of the nation's airports, starting in FY 2022. These grants will fund safe, sustainable, and accessible airport terminals, on-airport rail access projects, and airport-owned airport traffic control towers. Projects may also include multimodal development. Awards are determined through annual application to FAA for NCDOT Aviation to administer.

4.2.3. FAA Contract Tower Competitive Grant Program (FCT)

As part of the BIL program, $100M will be provided over five years starting in FY 2022 through the FAA Contract Tower (FTC) Competitive Grant Program. The purpose of the FCT Competitive Grant Program is to make annual grants available to eligible airports for airport-owned air traffic control tower projects that address the aging infrastructure of these facilities. Awards are determined through annual application to FAA for NCDOT Aviation to administer. The FCT program is administered by the FAA's Office of Airports.

4.3. COVID-19 Relief

In response to the impacts of the global COVID-19 pandemic, the federal government implemented three different COVID-19 relief programs that provided additional funding resources to airports. These programs varied in amount of money, eligibility, and duration. Please note the COVID-19 Relief sections are provided to share information pertaining to existing funding. No new funding is available under these COVID-19 Relief programs.

4.3.1. Coronavirus Aid, Relief, and Economic Security Act (CARES)

The Coronavirus Aid, Relief, and Economic Security (CARES) Act (H.R. 748, Public Law 116-136), signed into law on March 27, 2020, included $10 billion in funds to be awarded as economic relief to eligible U.S. airports affected by the prevention of, preparation for, and response to the COVID-19 pandemic. There were two block grants of CARES funding. One was for operation and maintenance and debt service for the airports only. The other CARES Act provided funds to match non-federal share of NPE, apportionment, and discretionary projects for the year the funding was awarded. In North Carolina CARES matches are extended through 2025 for existing open grants only. Matches for new grants will not be matched with Covid-19 relief funds. Under normal circumstances, AIP grant recipients contribute a matching percentage of the project costs. Providing this additional funding and eliminating the local share allowed critical safety and capacity projects to continue as planned regardless of airport sponsors' current financial circumstances.

4.3.2. Coronavirus Response and Relief Supplement Appropriations Act (CRRSAA)

The Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA) (Public Law 116-260), signed into law on December 27, 2020, included nearly $2 billion in funds to be awarded as economic relief to

eligible U.S. airports and eligible concessions at those airports to prevent, prepare for, and respond to the COVID-19 pandemic for fiscal year 2021. CRRSAA provided funding for operation and maintenance and debt service for the airports only.

4.3.3. American Rescue Plan Act (ARPA)

The American Rescue Plan Act of 2021 (H.R. 1319, Public Law 117-2), signed into law by the President on March 11, 2021, included $8 billion in funds to be awarded as economic assistance to eligible U.S. airports to prevent, prepare for, and respond to the COVID-19 pandemic. There were two block grants of ARPA funding. One was for operation and maintenance and debt service for the airports only. These funds provided economic relief to airports around the country affected by the COVID-19 pandemic. The other ARPA grants were included in annual AIP applications for NPE, apportionment, and discretionary funds to match the non-federal share of these projects for the year in which the grant was received. ARPA matching funds are set to expire in 2025.Primary commercial service airports received $6.5 billion, which was distributed based on the number of annual enplanements. An additional $800 million was awarded to eligible in-terminal concessions to provide relief from rent and minimum payment at Primary commercial service airports. Non-Primary commercial service and GA airports received $100 million that was distributed by NPIAS category. The ARPA funds also allowed for AIP grants to be awarded at a 100 percent federal share, meaning that state and local matches were not necessary for these awards.

Local Funding

Local communities and counites also play a significant role in the funding of their local airport projects. In NC, the local match for federal and state aid projects is 10% of the total project cost. While some airports can use excess revenue from airport operations and leases to fulfill their match, other airports must rely on additional public funds, especially when funding large projects.

4.4. FAA 5010 Safety Inspections and Reporting

While not a funding program, The FAA's Airport Safety Data Program is an important one to highlight as this program is the primary means for the collection, maintenance, and dissemination of information related to the State's Non-Primary airports. NCDOT Aviation has a contract to conduct inspections and reporting at public-use airports on behalf of the FAA, as a part of the FAA 5010 Safety Data Program. NCDOT Aviation visits and inspects all public-use airports every three years to determine safety and adequacy. During these inspections, the inspector examines runway conditions, airport markings, airport lighting, runway approach angles, and controlling runway obstructions. After an inspection is completed, airport managers are notified by letter and/or email if any corrections are needed by the airport to maintain public-use status.

During the inspections, NCDOT Aviation collects and records information on North Carolina airports for the FAA to use in publications such as the Airport/Facility Directory as well as for State use in the development of the North Carolina Airport Guide. This guide is for pilot use to aid in flight preparation and trip planning.

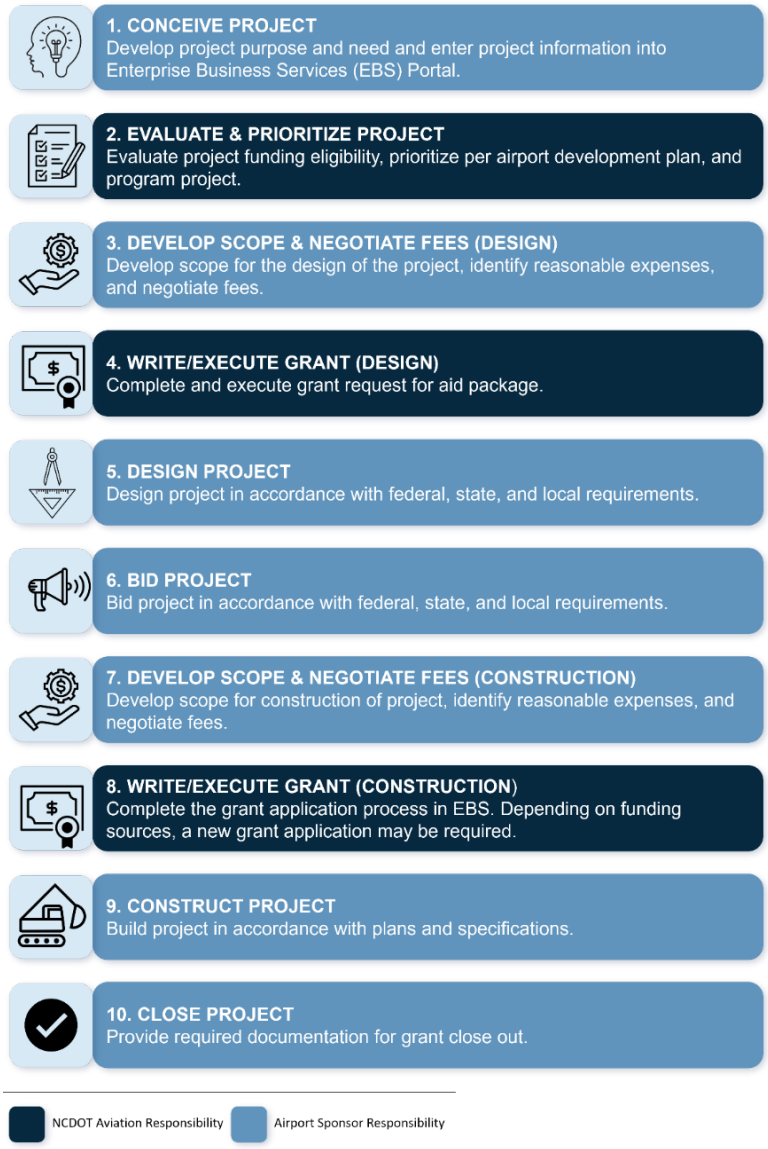
Chapter 5. Project Programming Steps

NCDOT Aviation has identified 10 important steps for airport sponsors to adhere to when requesting federal or State funding for an airport project. **This 10-step process applies to projects receiving federal, State Aid, and STIP funding.** This process takes into consideration FAA guidelines and the FAA's grant assurances, which airports are obligated to follow and meet before a project can be funded. When airport sponsors follow this 10-step process, it allows for the smooth transition from project inception all the way to project completion. The 10 steps are presented in **Figure 5-1** and then briefly discussed.

The steps outlined in this chapter do not apply to Directed Funding. Please review **Chapter 3. State Funding Sources and Programs** for more information on Directed Funding programs.

Additional details can also be found here: **Directed Funding Tips**

Figure 5-1. The 10-Step Airport Project Prioritization Programming and Execution Process



5.1. Step 1: Conceive Project

The first step in the process is to define a project. All projects that an airport wishes to undertake in the next 20 years must be identified on the airport's approved ALP. NCDOT Aviation requires that an ALP be updated every 10 years or as needed due to build out and be conditionally approved by NCDOT Aviation. Once approved, a project can be submitted to NCDOT Aviation for funding through the online portal, EBS. As part of the submission, the airport sponsor must identify project details, such as a project description, a cost estimate, a depiction of the project, a project categorization, promise of local match, and estimated date of design and construction. Airports must maintain these requests year to year during the annual request for updates. This notice includes the 5-year State Aid program of priority projects. If your project meets the system plan criteria and is not included, this is the time to request inclusion for future prioritization.

5.2. Step 2: Evaluate and Prioritize Projects

Once a project is submitted for a funding request via EBS, NCDOT Aviation reviews each project for eligibility, clarity, and reasonableness. This system does not include workflow, please notify your APM if new projects are added. If a project is deemed as unreasonable, unclear, or ineligible for funding, NCDOT Aviation will notify the airport sponsor and advise them of necessary changes to make sure the project meets eligibility requirements to be approved. If the project is cleared for funding, NCDOT Aviation will recommend which funding source(s) are the most appropriate based on project type (**See Chapter 3. State Funding Sources and Programs** or **Chapter 4. Federal Funding Sources and Programs**) and the project will be prioritized based on NCDOT Aviation's priority rating system and/or the FAA's prioritization process (See Appendix G: Priority Rating System).

5.3. Step 3: Develop Scope and Negotiate Fees (Design)

An airport sponsor can collaborate closely with the selected consultant to prepare a scope for the project. Scope and fees for each project must be submitted to NCDOT Aviation for review and eligibility. NCDOT Aviation, in turn, will notify airport sponsor of concurrence of scope and fees. If funding is available for the project based on its ranking and prioritization completed in Step 2, the project goes to the BOT for final funding approval, as funding is available. Once the BOT approval for a project is received, a RFA is created in EBS, and an award letter is sent to the airport sponsor.[10]

5.4. Step 4: Write/Execute Grant (Design Projects)

When the project scope and consultant fees have been approved, the airport sponsor will complete and then submit the application through the EBS portal. The application is reviewed and if acceptable, the NCDOT Aviation approves the application in EBS. Upon Level 2 (L2) application approval, the "unsigned agreement" is uploaded in EBS for the sponsor's signature or sent to the sponsor via DocuSign if the sponsor utilizes DocuSign. In order to accept the grant, the sponsor's approving board or local government official must authorize the execution of the grant agreement. Upon receipt of the partially signed agreement, the NCDOT Deputy Secretary for Transit will execute the grant and NCDOT Aviation can give final approval of the application in EBS and create the agreement in EBS. Upon creation of the

[10] Federal Non-Primary Entitlement Funds (NPE) do not require BOT review or approval.

agreement in EBS, the automated letter “Grant Execution and Notice to Proceed” will be issued to the sponsor.

5.5. Step 5: Design Project

Once notice to proceed has been received, the selected consultant can then design the project based on the approved scope and fee. Any work completed prior to NTP is done so at risk for reimbursement. The consultant works closely with the airport sponsor and NCDOT Aviation. The NCDOT Aviation will review the project design and provide comments. The airport sponsor will submit electronic reimbursement forms through EBS as appropriate, but no more than monthly. Payment is based on work actually completed and invoiced to date. The NCDOT Aviation Grants Administrator and the APM will review invoices and payments for accuracy prior to approval. There is a five-step review process (L0 – L3, and Fiscal review). The NCDOT Aviation grant staff performs the L0, L2, and L3 review, while the designated APM performs L1 review, and the final approval is conducted by the Fiscal reviewer.

5.6. Step 6: Bid Project

When the project design is completed, NCDOT Aviation will confirm funding for construction based on the estimate and prepare the Disadvantaged/Minority-owned/Women-owned Business Enterprise (DBE/MBE/WBE) goal in conjunction with the Office of Civil Rights (OCR). The sponsor will then advertise the project, open bids, and evaluate the bids. Depending on the grant amount awarded and source, the modified request may need to go to the BOT for approval as well.

5.7. Step 7: Develop Scope and Negotiate Fees (Construction)

This step in the process is similar to Step 3: Develop Scope and Negotiate Fees (Design). The airport sponsor, consultant, and NCDOT Aviation develop the scope and fees for construction. The consultant/engineer prepares the fees, which must be reviewed and approved by NCDOT Aviation. This step can be completed prior to or in conjunction with Step 6: Bid Project.

5.8. Step 8: Write/Execute Construction Grant (See step 4)

This step includes obtaining funds for construction and construction administration services. The airport sponsor must complete the grant application in EBS and submit to NCDOT Aviation for review and award, which may require BOT approval. Depending on the funding sources a new grant application may be required. The airport board or official must accept the grant and its terms. The Deputy Secretary executes the grant and a notice to proceed is issued.

5.9. Step 9: Construct project

This step follows the same process as Step 5: Design Project. The airport sponsor awards the contract to the contractor and consultant/engineer, who begins construction on the project. The sponsor requests reimbursement from NCDOT Aviation at appropriate intervals. Any change orders and or overruns during a project lifetime must be approved through NCDOT Aviation prior to additional work proceeding. When the construction project is completed, the airport sponsor accepts the project and submits final pay requests to the NCDOT Aviation.

5.10. Step 10: Close Project

The last step in the process is project close-out. The airport sponsor submits the final reimbursement form marked “final” to trigger a grant close-out request along with required close-out documentation per the

AV-103 checklist. The NCDOT Aviation APM reviews and inspects the project, as available, to ensure it was completed as planned. If all work is approved, the Grants Administrator will process the final grant payment and conduct the financial close-out.

Appendix A. Statutory Authority and Legal Notes

Airport sponsors are obligated by a number of different state and federal statutes in conducting projects under State Aid to Airports and the FAA AIP as well as operating the airport in general. In some cases, these statutes are permissive, giving the owning agency certain powers and authority. In other cases, they are restrictive, requiring certain actions on the part of the sponsor before all or portions of a proposed project may be conducted. Because there are so many laws and regulations, many of them highly specialized, they are not adequately covered here. This appendix defines and explains the key laws and statutes guiding the development and maintenance of safe and environmentally responsible airports. This is not an exhaustive list, but rather a compilation that describes the primary state and federal legislation, rules, and regulations that lay the foundation for airport operations and development.

Additional county and local laws and regulations influence airport funding, development, and operation.

Airport sponsors should rely upon their professional support teams, particularly their attorney and engineer, to review potential laws.

A.1. State Aviation Statutory Authority

The North Carolina General Statutes (NC GS) present the laws established by the North Carolina legislature and contain more than 70 titles, including ones that address aviation and airports. The primary state statute dealing with aviation is North Carolina General Statutes (GS) Chapter 63, Aeronautics. This statute contains administrative rules which have the force and effect of law and are both reviewed and approved by the North Carolina Legislature. Among other requirements, the statutes under Chapter 63 establish the requirements for the division's duties for the development of aviation in the state. There are nine articles and multiple sections found under each article. These statutes deal with a myriad of issues including funding, aircraft operation, taxation, duties of the NCDOT Aviation, and airport zoning and regulation.

The major sections of GS Chapter 63 are as follows:

- Article 1- Municipal Airports: Defines the authority of local governments to own and operate airports and gives legal definitions of various aeronautical terms.
- Article 2- State Regulation: General regulation of aircraft and airmen.
- Article 3- Stealing, Tampering with, or Operating Aircraft While Intoxicated: Defines the criminal activities and charges including theft of aircraft, trespass on airports, and flying while intoxicated.
- Article 4- Model Airport Zoning Act: Provides powers of local government with regard to land use and obstruction zoning.
- Article 5- Aeronautics Commission; Federal Regulation: Provides authority for state and local officials to enforce federal aviation regulations. Gives local governments authority to acquire lands for public purpose under the power of eminent domain.
- Article 6- Public Airports and Related Facilities: Discusses the powers of local governments regarding the operation of airports.
- Article 7- State and Federal Aid; Authority of the Departments of Transportation: Contains the authority for the Department of Transportation to conduct aviation programs and contains the legal aspects of the State Aid Airports Program.

- Article 8- North Carolina Special Airports Districts Act: Creates the authority for special airport districts for the purpose of creating unified taxing structures for airports.
- Article 9- Changes in Special Use Airspaces: Provides the authority to the General Assembly to determine if changes to North Carolina airspace (namely military or restricted airspace) proposed by the FAA are in the public's best interest.

GS Chapter 63 provides that local governments may establish airport commissions and authorities, jointly with other cities and/or counties if appropriate. However, such agencies formed by resolution of the local government generally have limited legal powers and must have many of their actions reviewed and approved by the owning governments. The creation of a semi-autonomous airport authority may lessen some of these concerns, but such boards must be created by the General Assembly as a result of having their local legislative delegation introduce appropriate measures resulting in a state charter for the airport authority as a unit of local government.

A.1.1. Strategic Transportation Investments (STI)

The Strategic Transportation Investments (STI) law was codified on June 26, 2013. STI provides the funding formula for NCDOT's capital expenditures. All capital expenditures, regardless of mode, must compete for the same funds. STI funding is for capital improvement projects only and just one portion of the airport project funds administered by the NCDOT AVIATION.[11]

More detailed information about STI funding, including eligibility and selection process information is included in **Chapter 3. State Funding Sources and Programs.**

A.1.2. Other State General Statutes

Each airport Sponsor should recognize that airports are also subject to wide range of state laws and regulations to the same extent that local governments are responsible. A few examples include:

- GA Chapter 40A: Eminent Domain: Establishes the authority of municipalities, counties, and private entities (under certain circumstances) to condemn land under the power of eminent domain.
- GS Chapter 136 establishes the organization of NC's Department of Transportation and contains rules that must be followed by NCDOT Aviation on state funded projects and on-call projects.
- GS Chapter 143: State Departments, Institutions, and Commissions: Contains language which must be followed by all governmental units, including airports, with regard to purchasing, including bidding for construction, purchase of equipment, and employment of professional services.
- GS Chapter 153A: Counties and GS Chapter 160A: Cities and Towns: Give specific requirements for municipal and county governments and are also applicable to airports under the appropriate category.

A.1.3. Other State Agency Regulations

Other state agencies have their own regulations which might affect both construction and operation of airport facilities, fuel tank regulations, building codes, etc., to name a few. It is vital that each sponsor's

[11] In addition to STI funding, NCDOT Aviation also administers the FAA's Non-Primary Entitlement (NPE) funding Non-Primary (GA) airports, FAA federal block grant discretionary and apportionment funding, state Safety/Regulatory/Operations funding through the Highway Fund for non-capital improvement projects, and the Airport Maintenance program.

attorney be conversant with all of the potential laws and regulations to reduce the possibility of conflict with state requirements. A few of these regulations that may impact airports are described here.

- North Carolina State Environmental Policy Act (1971) (G.S. 113A 1-13): Sets forth NEPA-like rules for the environmental review of state projects. The NC Department of Administration is tasked with coordinating the administrative requirements of the State Environment Policy Act (SEPA). These include the review of both state projects and non-state projects by commenting agencies,[12] for which NC Department of Administration maintains an Environmental Review Clearinghouse to coordinate the review process. Under NC SEPA law, actions that are categorically excluded under NEPA are considered to meet the requirements of SEPA. Actions for which a federal Environmental Assessment (EA) or Environmental Impact Statement (EIS) are warranted will concurrently meet the requirements of SEPA as long as the NEPA document is reviewed through the Clearinghouse process. Actions which are not subject to NEPA may still be subject to SEPA. Sponsors should coordinate with NCDOT Department of Administration to determine if state environmental review requirements may apply to actions which are not subject to NEPA.
- North Carolina Department of Environmental Quality (NCDEQ): NCDEQ's primary mission is to provide science-based environmental stewardship for the health and prosperity for all North Carolinians. There is a considerable number of permits, licensing, and requirements of NCDEQ that impact airports. Two NCDEQ programs related to stormwater protection are pertinent to airports, as described below:
    - NPDES Industrial Stormwater Program: The National Pollutant Discharge Elimination System (NPDES) Industrial Program is a federally mandated program to regulate stormwater discharge. Under this program, industrial activities are required to manage and monitor their facilities to prevent stormwater pollution. The Industrial Program is administered by the NCDEQ, which oversees the approval of Industrial permits and No Exposure Certificates. Most airport activities are covered under the NCG15 General Permit, including air transportation (airlines), aircraft storage, aircraft repair and maintenance, airfreight handling, and aviation material handling facilities. Airports are required to submit a General Permit application to receive a Certificate of Coverage (COC). The COC is automatically renewed each year, so long as annual permit fees are paid.
    - NPDES Construction Stormwater Program: The NPDES Construction Program is a similarly federally mandated program to control stormwater discharges from construction activities. The Construction program regulates construction activities that disturb more than one acre. Airports completing such construction must apply for a General Permit, which requires the permittee to develop Sedimentation and Erosion Control plans, adhere to material handling protocols, and undergo site inspections.
- State Building Codes: When vertical infrastructure is built on airport property, airport sponsors and their consultants/engineers must carefully follow state building codes. The North Carolina State Construction Office Manual is published periodically by the North Carolina Department of Administration's Office of State Construction and contains the procedures used by the state for

[12] Agencies include: Department of Environment and National Resources (DENR), Regional Offices (Air Quality, Land Resources, Water Quality, & Groundwater), Environmental Health, Parks and Recreation, Department of Agriculture, Natural Heritage Program, Wildlife Fisheries (DWF), Coastal Management (DCM), Wildlife Resources Commission (WRC), Forest Service, State Historic Preservation Office (HPO), Department of Public Safety, Department of Cultural Resources, Division of Emergency Management – National Flood Insurance Program (CC&PS, DEM – NFIP), NCDOT's Transportation Planning Branch (TPB), Appropriate Councils of Government (COG).

conduct of construction projects. In addition, it contains a comprehensive summary of applicable state laws, regulations, etc., which might be encountered in planning or building a project. While this manual is mostly pertinent to state-owned airports, there is additional construction guidance for all airports. Implementation and enforcement of state building codes is managed at the local level, and additional local codes may apply on top of state codes. As such, airport sponsors should coordinate with their local municipalities, legal team, and contractors to research and comply with all pertinent building codes.

A.2. Federal Regulations & Statutory Requirements

The USDOT is the federal agency authorized and required under federal law to regulate aviation and other modes of transportation in the U.S. The FAA is the division of the USDOT that regulates the air transportation system, including regulating airports, aircraft, airmen, and the national airspace system. The Federal Aviation Regulations (FARs) address specific aspects of airport development, certification, construction, operations, and funding. The FAA issues Advisory Circulars (ACs) to help explain the intent of an FAR and provide guidance and information to airport sponsors and others for complying with a specific subject matter.

United States Code (U.S.C.), Title 49 is the enabling legislation that relates to transportation in the U.S., including aviation and airports. The general objective of Section 40101 of the Code is to promote the safe and secure operation of the airport system and assist in the development of the national system of airports to ensure its ability to meet future demands.

Fifty titles comprise the Code of Federal Regulations (CFR), which are contained in U.S.C. Title 49. Title 14 CFR pertains to FAA regulations that govern publicly owned airports and aircraft. There are 68 regulations under Title 14 CFR: Aeronautics and Space.

Acceptance of an FAA or State Block Grant funding binds the sponsor to adhere to the Federal Grant Assurances. Some of the Assurances run for 20 years (primarily having to do with the operation and maintenance of a specific facility), while others are perpetual (sale of land and economic non-discrimination primarily). Appendix B: Grant Assurances of this Guide provides detailed information regarding federal and state grant assurances.

A.2.1. Federal Regulations Pertaining to Funding

U.S.C. Title 49 authorizes the Airport Improvement Program (AIP) and outlines that when an airport accepts federal funds, it is then obligated to the FAA to maintain and operate the airport facilities safely and efficiently and comply with Federal grant assurances. The FAA's AIP Handbook provides guidance to FAA staff and sets forth policy and procedures for administering the AIP. More information about the FAA AIP is included in **Chapter 4. Federal Programs and Funding Sources**.

Due to NCDOT Aviation's participation in the FAA's **State Block Grant Program (SBGP),** NCDOT Aviation is responsible for administering AIP funding for Non-primary airports included in the NPIAS.

More information pertaining to SBGP is presented in **Chapter 2. Roles and Responsibilities.**

The following is the pertinent legislation regarding the funding of airport projects:

- Airport and Airway Development Act of 1970 and the Airport and Airway Revenue Act of 1970: Together these two acts established the Airport and Airway Trust Fund (AATF), which provides the dedicated revenues used to fund AIP projects. The AATF is made up of aviation excise taxes only, including passenger taxes, domestic freight and mail taxes, and fuel taxes. The Airport and Airway Development Act was amended in 1976.
- FAA Reauthorization Act of 2018: Provides the most recent legislative foundation for the establishment and use of the AATF.
- Aviation Safety and Capacity Expansion Act of 1990: Establishes the Passenger Facility Charge (PFC) program, under which the FAA can authorize a public agency to charge a fee per enplaned passenger at a commercial service airport. The proceeds from PFCs must be used to finance FAA-approved airport-related projects that improve safety, security, or capacity; reduce noise; or provide for opportunities for increased competition among air carriers.
- Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR 21): Modified the PFC program, including an increase in the current maximum level to $4.00 or $4.50 per enplanement.
- U.S.C. Title 49 Section 47103: Requires the Secretary of Transportation to publish a national plan (National Plan of Integrated Airport Systems or NPIAS) for the development of public-use airports in the U.S. An airport must be included in the NPIAS to be eligible to receive federal funding under the AIP.
- U.S.C. Title 49 Section 47104a: Authorizes the use of Airport and Airway Trust Fund monies by the FAA to make grants for public-use airport planning and development.
- U.S.C. Title 49 Section 40117: Authorizes a commercial service airport to impose a PFC to assist in financing airport capital development upon federal approval. The use of PFCs must be to preserve or enhance capacity, safety, or security of the national transportation system; reduce noise impacts; or help enhance competition among air carriers.

A.2.2. Federal Regulations Pertaining to Airport Operations/Development

The following regulations, in particular, shape the role of airports in communities and can limit the ability of an airport to grow or change. These regulations, standards, and guidance for airport operations and development can be found on the FAA website at www.faa.gov/regulations_policies/.

- 14 CFR Part 139: Certification of Airports: Establishes requirements for the certification and operation of airports that support aircraft having a seating capacity of more than 30 passengers. The FAA is authorized to amend, modify, suspend, or revoke an Airport Operating Certificate.
- 14 CFR Part 77: Objects Affecting Navigable Airspace: Establishes standards for determining obstructions in navigable airspace. This includes requirements for notifying FAA of proposed airport construction or modifications and sets standards for determining obstructions in navigable airspace. It provides for aeronautical studies of obstructions to air navigations to determine their effects. This regulation also defines the FAA's imaginary surfaces around runways, approach surfaces, and navigable airspace surrounding airports.
- 14 CFR Part 150: Airport Noise Compatibility Planning: Applies to all public-use airports and heliports and includes procedures for developing airport noise compatibility programs.
- 14 CFR Part 151: Federal Aid to Airports: Governs the FAA award of airport construction and development grants and identifies the FAA ACs incorporated into development standards.

Specifies that all airport development financed by the federal aid program must be shown on and completed in accordance with an approved airport layout plan (ALP).

- 14 CFR Part 152: Airport Aid Program: Outlines the eligibility and application requirements for funding airport planning and development under the Airport and Airway Development Act of 1970, as amended.
- 14 CFR Part 157: Notice of Construction, Alteration, Activation, and Deactivation of Airports: Specifies the FAA notification requirements if an airport operator is proposing to construct, alter, activate, or deactivate an airport.
- 14 CFR Part 158: Passenger Facility Charges: Provides procedures for establishing, implementing, collecting, and managing PFCs for commercial service airports.

There are many FAA Orders and ACs that provide specifications and guidance on the development of airports. The following are a few examples of those ACs that provide development standards that airports must follow to receive federal funding. These, in turn, shape the ability of an airport to grow or change.

- FAA Order 5190.6B: Airport Compliance Manual: Provides guidance to airports and FAA personnel to comply with federal grant assurances and obligations for public-use airports.
- FAA AC 150/5300-13B: Airport Design: Contains the standards and recommendations for airport layout and design. This includes the required dimensions of various safety areas.
- FAA AC 150/5360-9: Planning and Design of Airport Terminal Building Facilities at Non-Hub Locations: Provides guidance for constructing terminals at non-hub airports.
- FAA AC 150/5360-13, Change 1: Planning and Design Guidelines for Airport Terminal Facilities: Provides guidance for planning and design of terminal buildings and related facilities.
- FAA AC 150/5190-4B: Airport Land Use Compatibility Planning: Describes the effects of land use on airport operations and defines the major incompatible land uses that impact or are impacted by airport operations.

Sample zoning ordinance language and a sample airport land use compatibility plan is provided in the appendices of FAA AC 150/5190-4B.

- FAA AC 150/5230-4C: Aircraft Fuel Storage, Handling, and Dispending on Airports: Provides specifications and guidance on the storage, handling, and dispensing of aviation fuels on airports. This AC also offers standards and guidance for training personnel on safe aviation fuel handling. The standards outlined in this AC are informed by the National Fire Prevent Association (NFPA) 407, Standard for Aircraft Fuel Servicing. While AC 150/5230-4C offers national guidance, airport sponsors should coordinate with their local fire marshal as local fire code and regulations at specific airports may differ and airports are subject to local fire marshal inspections.

NFPA 30, Flammable and Combustible Liquids Code, provides safeguards to reduce the hazards associated with the storage, handling, and use of flammable combustible liquids. While not aviation specific, NFPA 30 does offer standards and guidance on fuel tanks. Finally, Air Transport Association (ATA) 103 provides

As stated in the current (2018) North Carolina Fire Code, airport fuel systems shall be designed and constructed in accordance with NFPA 407.

Additional state fire codes pertaining to aviation facilities is included in Chapter 20 of the NC Fire Code and should be consulted along with other local and federal guidance.

guidance for the safe storage and distribution of jet fuel at commercial service airports. ATA 30 can also be beneficial for general aviation airports. Fuel providers can refuse to provide fuel based on quality control and care of fuel systems.

A.2.3. Federal Regulations Pertaining to Land Purchase and Disposal

Many FAA requirements are contractual and result from the local government's acceptance of federal funds or surplus property. Many of North Carolina's eastern airports were built by the military and subsequently given to local governments. These transfers carried with them a myriad of requirements, the most frequently violated of which is that (1) no land may be sold without FAA approval, (2) the Sponsor must obtain Fair Market Value for the property, and (3) the proceeds must be reinvested in the airport for maintenance and improvement of the facilities. The following legislation and FAA guidance assists airports in land purchase and disposal:

- Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act): Provides minimum real property acquisition policies and requires the uniform and equitable treatment of persons displaced as a result of federally assisted projects. This regulation applies to all federally assisted projects.
- 49 CFR Part 24: Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs: Implements the Uniform Act to apply to land acquisition necessary for AIP-funded airport development projects.
- FAA Order 5100.37: Land Acquisition and Relocation Assistance for Airport Projects: Provides guidelines and identifies responsibilities for FAA acceptance and monitoring of airport sponsor compliance with provisions of the Uniform Act and 49 CFR Part 24 on airport projects receiving federal financial assistance.
- FAA AC 150/5100-17: Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects: Provides guidance to airport sponsors of AIP federally funded projects to develop land acquisition and relocation assistance procedures in conformance to the Uniform Act.
- Part VII of the FAA Airport Compliance Manual (Order 5190.6B): Releases and Property Reversions: Provides guidance to airport sponsors about the process for being released from federal grant assurances and the reversion of airport property originally given to the sponsor by the federal government.

A.2.4. Federal Land Use Regulations

Noise mitigation and the need for compatible land use planning often go hand in hand. Many of the regulations that guide airport development and noise also impact land use planning. When airport owners accept federal AIP funds, U.S.C. Title 49 Chapter 471 (Airport and Airway Improvement Act of 1982) obligates them to make grant assurances including mitigating and preventing airport hazards and maintaining compatible land use by the adoption of zoning laws. There are many entities involved in the development and implementation of compatible land uses around airports. States, as well as community and county zoning boards and commissions, play a significant role in ensuring that the land uses surrounding the airport are compatible with airport operations.

A few of the FAA ACs that provide guidance and standards regarding land use include:

FAA AC 150/5070-6B: Airport Master Plans: Provides guidance for the development of airport master plans and ALPs, including the appropriate safety area and zoning designations. The FAA's conditional approval of an ALP is limited to existing facilities only for which the FAA retains approval authority.

- FAA AC 150/5020-1 Noise Control and Compatibility Planning for Airports: Provides guidance for airport noise control and compatibility planning. Also gives guidance for preparing airport noise exposure maps and airport noise compatibility programs in accordance with 14 CFR Part 150.
- Part VI of the FAA Airport Compliance Manual (Order 5190.6B): Land Use: Offers guidance for airports to comply with Federal Grant Assurance 21: *Compatible Land Use* in relation to zoning, land use planning, and residential development on or near airports. Furthermore, Part VI details the Land Use Compliance Inspection, including its primary elements, the responsibilities of the FAA ADO and airports, and guidance for airports receiving corrective actions.

A.2.5. National Environmental Policy Act (NEPA)

Mitigation of environmental impacts to the community is an ongoing responsibility of an airport sponsor. The National Environmental Policy Act (NEPA) provides the national charter to protect the environment. All federal agencies, including the FAA, must comply with regulations for implementing NEPA. NEPA requirements go into effect when airport development under oversight of the FAA is proposed. NEPA and other environmental laws impose requirements on federal agencies such as the FAA to evaluate the environmental impact of the airport's actions before approving funds for airport development projects. Airports are responsible for NEPA compliance, including preparation of a Categorical Exclusion (CATEX), Environmental Assessment (EA), or Environmental Impact Statement (EIS) to provide full disclosure of environmental impacts and ensure NEPA requirements are met for subject development actions. Through the FAA's SBGP, NCDOT Aviation acts on behalf of the FAA in approving most CATEX- and EA-level actions at Non-Primary airports in the state.

Two key NEPA-related orders provide guidance that an airport must follow in its development and maintenance:

- FAA Order 1050.1F, Environmental Impacts: Policies and Procedure: Sets forth policy and procedures for compliance of FAA actions with NEPA. This order provides clear, concise, and up-to-date discussion of the FAA's requirements for implementing NEPA, clarifying requirements in order to facilitate timely, effective, and efficient environmental reviews of FAA actions.
- FAA Order 5050.4B: National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects: Supplements FAA Order 1050.1F in providing information to the FAA and airport sponsors in fulfilling NEPA requirements for airport actions under the FAA's authority.

A.2.6. Umbrella of Regulations Addressed under NEPA

The requirements of Orders 1050.1F and 5050.4B are summarized in the FAA's Environmental Desk Reference for Airport Actions, which provides a quick reference to the dozens of separate orders, statutes, and acts that pertain to compliance of FAA actions with NEPA. The Desk Reference summarizes pertinent requirements under each of the 14 environmental impact categories that may be relevant to FAA actions, as provided in paragraph 4-1 of FAA Order 1050.1F:

1. Air Quality
2. Biological Resources (including fish, wildlife, and plants)
3. Climate
4. Coastal Resources
5. USDOT Section 4(f) Resources
6. Farmlands
7. Hazardous Materials, Solid Waste, and Pollution Prevention
8. Historical, Architectural, Archaeological, and Cultural Resources
9. Land Use
10. Natural Resources and Energy Supply
11. Noise and Noise-Compatible Land Use
12. Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety
13. Light Emissions and Visual Effects
14. Water Resources

A.2.7. Other Federal Environmental Laws & Regulations

Airport sponsors should note there may be other federal regulations and orders pertaining to protection of the environment that could apply to airport actions outside of NEPA, including airport noise, airport air quality, water quality and discharge, compatible land use, property acquisition and relocation assistance, wildlife hazard management, zero emission vehicles, and solar energy development. Some of these additional laws and regulations are discussed elsewhere in this Program Guidance Handbook. The FAA's Airport Environmental Program is a comprehensive resource for airports both in implementing requirements under NEPA as well as these other federal environmental laws and regulations that may apply outside of NEPA.

A.2.8. Wildlife Mitigation Regulations

Airports are required to provide a safe environment for all users. Wildlife in the airport environs can be detrimental to the safety of aircraft and passengers. Conversely, federal and state laws and regulations also require airport sponsors to protect wildlife and their habitat. Many airports are required to prepare a Wildlife Hazard Management Plan to minimize potential aircraft and wildlife conflicts. These plans require that airports consider the laws and regulations protecting wildlife. Off-airport properties must also be considered and addressed to ensure compatibility with aircraft operations. The following pertains to wildlife hazard management and mitigation techniques:

ACRP Resources:

ACRP Synthesis 52 Report - Habitat Management to Deter Wildlife at Airports

ACRP Synthesis 23 Report - Bird Harassment, Repellent, and Deterrent Techniques for Use on and Near Airports

ACRP Research Report 198 - Wetland Mitigation, Volume 2, A Guidebook for Airports

- 14 CFR 139 Section 139.337: Wildlife Hazard Management: Identifies the responsibilities certified airport operators have with respect to hazardous wildlife issues.

The following FAA ACs aid airport wildlife hazard assessment and management:

- AC 150/5200-32B: Reporting Wildlife Aircraft Strikes

- AC 150/5200-33C: Hazardous Wildlife Attractants on or Near Airports
- AC 150/5200-34A: Construction or Establishment of Landfills near Public Airports
- AC 150/5200-36: Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports
- AC 150/5200-38 Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans

NCDOT Aviation provides guidance to airports through its Wildlife Hazard Program to comply with the above laws and ACs. Further information about the Wildlife Hazard Management Program is provided in **Appendix D NCDOT Aviation Wildlife Hazard Management Program.**

A.2.9. Federal Security Regulations

Safety and security at airports in the U.S. are guided by the TSA. TSA's rules for civil aviation can be found at 49 CFR, Chapter XII, Subchapter C. In addition to the following regulations that govern security at many airports, TSA has also published Security Guidelines for General Aviation Airports Information Publication A-001, the recommended security guidelines for GA/Non-Primary airports.

- Aviation and Transportation Security Act (2001): Created the TSA, which has the responsibility for the screening of passengers, checked bags, and air cargo at airports.
- Homeland Security Act of 2002: Created the Department of Homeland Security, which includes TSA.
- 49 CFR Subchapter C Part 1542: Airport Security: Requires commercial service airport operators to implement a TSA-approved security program.
- 49 CFR Subchapter C Part 1544: Aircraft Operator Security: Air Carriers and Commercial Operators: Requires certain commercial service and charter aircraft operators to adopt and implement a TSA-approved security program.
- 49 CFR Subchapter C Part 1546: Foreign Air Carrier Security: Requires foreign carriers operating in the U.S. to adopt and implement a TSA-approved security program.
- 49 CFR Subchapter C Part 1548: Indirect Air Carrier Security: Requires indirect air carriers, such as freight forwarders, to adopt and implement a TSA-approved security program.
- 49 CFR Subchapter C Part 1549: Certified Cargo Screening Program: Requires TSA certified cargo screening facilities (CCSF) to screen all cargo that will be transported on passenger aircraft.
- 49 CFR Subchapter C Part 1550: Aircraft Security Under General Operating and Flight Rules: Applies to the operation of small aircraft, such as GA aircraft.

A.2.10. Federal Commercial Air Service Regulations

The commercial airline industry was deregulated in 1978, providing for additional competition for scheduled air service among air carriers. Scheduled passenger carriers, charter carriers, and cargo carriers are required to be certificated by the USDOT and to maintain the certificate. Since deregulation, airports today have little say in the level of service provided and airfares offered at their airports. The USDOT does provide subsidies for scheduled service to the most rural U.S. airports, through the Essential Air Service (EAS) Program. The following regulations and policy have an impact on the role an airport plays in terms of scheduled air service

- 49 U.S.C. 411: Air Carrier Certificates: Outlines the requirements to obtain air transportation certificates.
- Airline Deregulation Act of 1978: Created a competitive environment and phased out the economic regulation of airlines, including the fares and route structures.
- 49 U.S.C. 417, Subchapter II: Small Community Air Service: Authorizes the EAS Program to ensure small communities maintained a minimal level of scheduled air service following deregulation. Authorizes funding and determines eligibility for the program.
- Airport and Airway Extension Act, Part IV (2011): Prohibits the USDOT from providing EAS to communities whose annual passenger subsidies are greater than $1,000 per passenger, regardless of their distance from the nearest hub airport.
- FAA Modernization and Reform Act of 2012: Caps the number of communities that can participate in the EAS Program and requires at least 10 passenger enplanements per service day to remain in the program, unless they meet a few exceptions.
- 14 CFR Part 398: Guidelines for Individual Determinations of Basic Essential Air Service: Provides guidelines for airports to determine eligibility for the EAS Program.

A.2.11. Additional Federal Laws and Regulations

There are additional federal laws and regulations that are applicable to federally funded projects. They include, but are not limited to:

- FAA Act of 1958: Numerous federal requirements including the prohibition against exclusive rights for a landing area or air navigational facility which received federal funding.
- Davis-Bacon Act: Requires sponsor to assure that employees on federally funded construction projects are paid wages in accordance with determinations made by the U.S. Department of Labor.
- Fair Labor Standards Act of 1938: Requires employees engaged in interstate commerce, plus those working in the construction industry, must be paid at least the minimum wage as stipulated by federal law.
- Hatch Act: Limits political activities of employees under certain conditions when they are paid by or part of an operation receiving federal financial assistance.
- Rehabilitation Act of 1973: Provides for accessibility to buildings for handicapped and provision for equipment for persons with impairments.
- Civil Rights Act of 1964: Prohibits discrimination on the basis of race, color, or national origin.
- Age Discrimination Act of 1975: Prohibits discrimination based on age.
- Architectural Barriers Act of 1968: Requires certain steps to be taken in public facilities to minimize adverse effects on persons with disabilities or other impairments.
- Powerplant and Industrial Fuel Act of 1978: Requires consideration for fuel and energy efficient systems in airport development projects.
- Contract Work Hours and Safety Standards Act: Sets limits on working hours and specifies payment of overtime after a certain number of hours each week.
- Copeland Anti-Kickback Act: Provides for federal penalties for threats or intimidation of contractors by public officials to return funds or equipment to the official.
- Single Audit Act of 1984: Requires each recipient of federal funds of more than

- $25,000 in a single year to have an annual audit made in accordance with Office of Management and Budget (OMB) Circular A-128.
- Executive Order 12372, Intergovernmental Review Process: Requires intergovernmental consultation, usually through a designated state contact, in the project submission process.
- Executive Order 11246, Equal Employment Opportunity: Prohibits hiring discrimination on the basis of race color, religion, sex, or national origin.
- 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards: Establishes a requirement for an accounting and reporting system for all sponsors receiving federal grants.
- 49 CFR Part 21, Nondiscrimination in Federally Assisted Programs: Implements title VI of the Civil Rights Act of 1964 which, in turn, requires sponsor adherence to minority business programs.
- 49 CFR 27, Nondiscrimination on the Basis of Handicap: Prohibits discrimination among employees on the basis of handicap and specifies handicapped access to buildings designed and/or built with federal assistance.
- 49 CFR Part 30, Denial of Public Works Contracts to Suppliers of Goods and Services of Countries (that discriminate): Provides that no service or product on a federal project shall be procured from a contractor or manufacturer of a country whose policies deny market access to that country for U.S. goods.
- 29 CFR Part 1, Procedures for Pre-Determination of Wage Rates: Implements requirements for paying of Davis-Bacon wage rates, as determined by the U.S. Secretary of Labor, on all federally funded construction projects.
- 41 CFR Part 50, Office of Federal Contract Provisions: Provides for equal employment opportunity on all federally assisted projects and prohibits discrimination.

A.3. Conclusion

Each public airport is subject to the effects of a number of different laws, regulations, policies, and statutes. In order to assure that these requirements are identified and met, each sponsor should fully involve their professional support team in the evaluation of both airport operations and construction projects.

Appendix B. Guide to Consultant Selection

A step-by-step approach is provided here to help navigate the requirements of retaining a consultant, contractor, or architect/engineer (A/E) specific to a design-bid-build project delivery method. Appendix C. Project Delivery Methods and Contract Types provides an overview of alternate delivery methods, including Design-Build (DB) and Construction Manager at Risk (CMAR). Project-related services that require the skill and advice of professional experts may include planning and design of airport construction projects, ALPs, capital improvement plans, environmental investigations, land appraisals, and obstruction evaluations. NCDOT Aviation staff are available to assist if questions arise during the consultant selection process.

Selections must be qualifications based. Both AIP and State policy prohibits selection based on cost information or cost proposals.

To remain eligible for Federal funding under the AIP, airport sponsors must base their selection of a consultant or A/E upon qualifications and experience to comply with Federal and State law, however it is important to note that this process may differ based on alternative delivery methods. Qualification-based selection ensures selection of the most qualified firm for the specific project, achieves fair and reasonable fees without using a “low bid” process, creates a partnership between the sponsor and consultant, and promotes full and open competition. If a sponsor bases their selection using cost estimates instead of qualifications, the project may be ineligible for AIP or State funding. Funding can be held up until compliance with contracting law occurs.

Grantees must conduct their selection process in a manner that ensures fair and open competition. The sponsor’s selection process must be void of any unfair or unethical conduct. Sponsors should not enter into the selection process with a pre-selection mentality. To assure AIP eligibility, sponsors should ensure their procurement actions are free of both personal and organizational conflict of interests.

B.1. Requirements

The following laws, regulations, orders, and ACs guide the Federal requirements that deal with the procurement of architectural, engineering, or consultant services using qualifications-based procedures. Federal Statute 49 USC 47107(a) and Title IX of the Federal Property and Administrative Services Act of 1949 serve as the enabling statute that establishes the authority for requirements associated with procurement of professional services for Federal contracts and Federally assisted grants.

B.1.1. Federal Public Law

- Brooks Act: Federal Government Selection of Architects and Engineers. Public Law 92-582, 92nd Congress, H.R. 12807, October 27, 1972
- 49 USC 47107 (a).
- Title IX of the Federal Property and Administrative Services Act of 1949 United States Code. Title 40 Subtitle I, Chapter 11 Selection of Architects and Engineers.

B.1.2. Code of Federal Regulations (CFR)

- Title 2 CFR part 200, Uniform Administrative, Cost Principles, and Audit Requirements for Federal Awards: Establishes the rules and requirements sponsors must comply with to qualify for AIP participation in costs associated with their professional services agreement. This consolidated Title 49 CFR Part 18 and various OMB Circulars into one place in 2014.

- Title 48 CFR part 31, Contract Cost Principles and Procedures: Ensures that applied labor and administrative overhead expenses comply with certain provisions and are certified by an audit.

B.1.3. FAA Orders and Advisory Circulars

- Order 5100.38, Airport Improvement Program Handbook
- Advisory Circular 150/5100-14, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects: Establishes the official FAA standards for sponsor procurement of professional services. Sponsor compliance with this AC assures conformance with 2 CFR Part 200, 49 USC 47107 and Title IX.
- Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for AIP Assisted Projects: Provides guidance to airport sponsors for land acquisition projects associated with AIP funding to ensure the program meets requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Regulations of the Office of the Secretary of Transportation, 49 CFR Part 24.

> Consultants and airport sponsors involved in land acquisition or relocation assistance must comply with FAA AC 150/5100-17.

B.1.4. FAA Grant Assurance #32. Engineering and Design Services

Following a qualification-based consultant selection process is also a requirement of the FAA Grant Assurances. There are 39 Federal grant assurances that an airport sponsor must uphold to receive Federal AIP funding. Grant Assurance #32: Engineering and Design Services states that an airport sponsor must "award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping, or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport."

B.1.5. North Carolina General Statutes

- North Carolina General Statute § 143-64.31 Procurement of Architectural, Engineering, and Surveying Services. This statute is also referred to as the Mini Brooks Act and reinforces the federal law in the selection of consultants.

B.1.6. North Carolina Administrative Code

- Title 19A – Transportation - Chapter 05 – Administration .0301 Adoption of Federal Contract Guidelines states:

  (a) In order to provide consistency and uniformity in the administration of all contracts, the following guidelines including any subsequent amendments or editions of the same are hereby incorporated by reference as rules of the North Carolina Department of Transportation to be used as contract guidelines on non-federally funded projects.
  (b) The guidelines hereby incorporated are Code of Federal Regulations 49 CFR 31.2, Contracts with Commercial Organizations and 49 CFR 18, Uniform Administrative Agreement for Grants and Cooperative Agreements with State and Local Governments.

B.2. Consultant Selection Process

As stated above, airport sponsors who receive grants through the AIP agree to procure consultant services in accordance with the guidelines established by the FAA in AC 150/5100-14. The guidance in the AC allows for a sponsor to establish "equivalent" requirements for procuring consultant services in lieu of the requirements contained in the AC.

This section outlines a selection system developed and recommended by NCDOT Aviation for use by airport sponsors in selecting an airport consultant or A/E firm for airport development projects, based upon the guidance provided in AC 150/5100-14; specifically, if the guidelines for a formal consultant selection were used. Use of this system assures the sponsor of compliance with not only State requirements, but with FAA regulations and assurances as well.

Per 2 CFR Part 200.318(A), an airport sponsor may elect to use its own system of selecting an airport consultant; however, the sponsor should ensure that its system is in compliance with all Federal and State requirements. Failure to do so could result in the loss of Federal and/or State funding for the sponsor.

The airport sponsor must maintain sufficient records, made available at NCDOT Aviation's request, to detail the significant history of their procurement action. This includes the rationale for the procurement method, the selection considerations, contract type, and basis for contract price.

Figure B-1 illustrates the consultant selection process recommended for airport sponsors to follow in North Carolina. Sponsors should review AC 150/5100-14 for further information about the consultant selection process. The airport sponsor will be required to furnish NCDOT Aviation with documentation that a qualifications-based selection process was followed.

B.2.1. Step 1: Determining Need and Solicit Interest

The first step in the consultant selection process is for the airport sponsor to determine what project and type of selection it is seeking (single project or on-call services for multiple projects). When determining which type of selection to proceed with, the airport sponsor should discuss its five (5)-year ACIP with its NCDOT Aviation airport project manager. The only projects that should be included in the advertisement for services are those which can reasonably be expected to receive funding within a five (5)-year period, and project descriptions should be specific rather than general. Once the sponsor determines which projects will be included in the advertisement for services, proceed to Step 2.

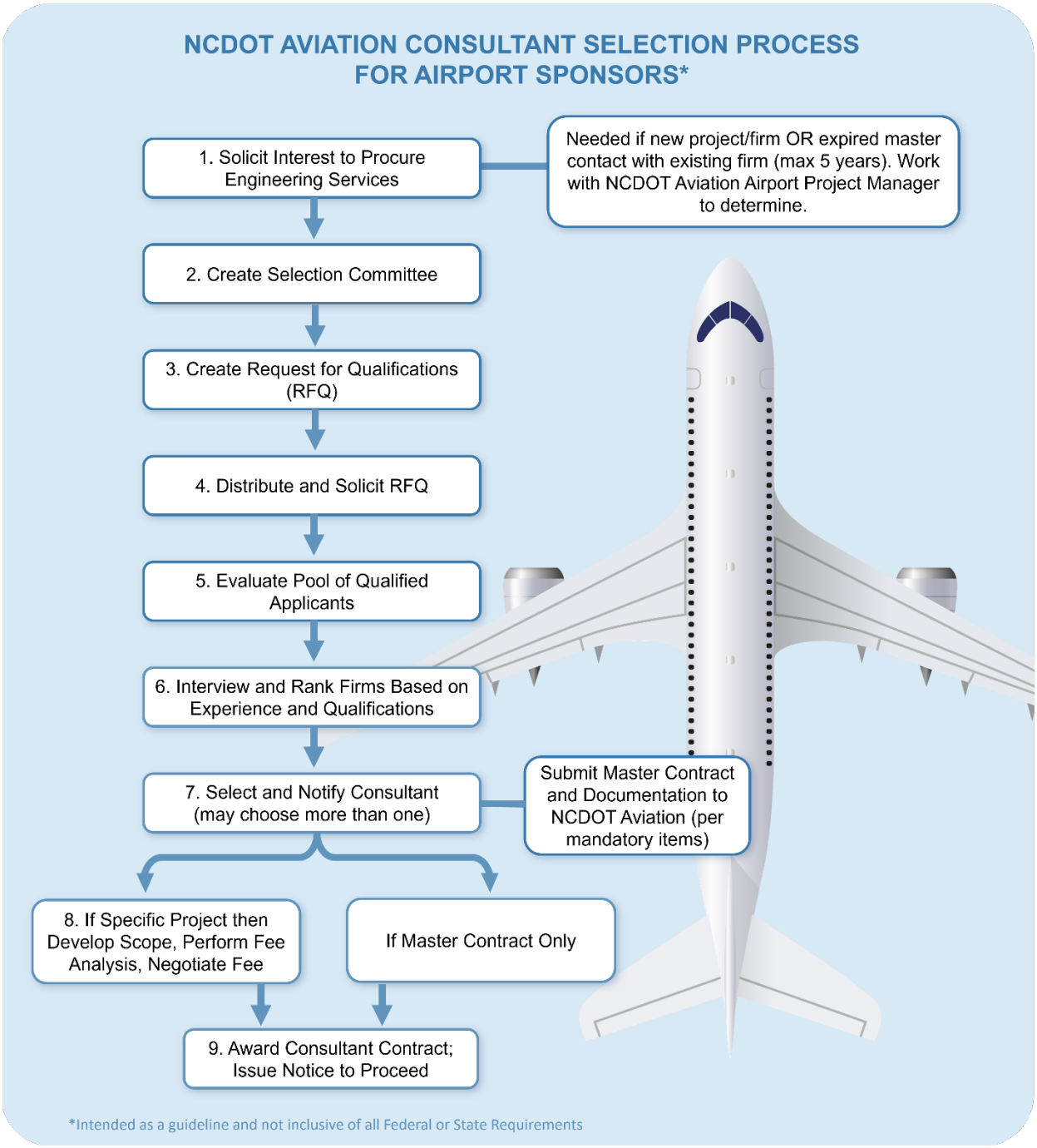
Seeking out Another Consultant?

If an Airport Sponsor wants to seek out a different consultant for a project outside of their Master Contract, or, desires to switch to a new consultant for their Master Contract, then a new qualifications-based selection process is required.

B.2.2. Step 2: Create a Selection Committee

The next step in the process is for the airport sponsor to establish a consultant selection committee. This is the committee that will be responsible for developing a scope of work for the services contract being advertised, developing the selection criteria, creating an advertisement requesting qualifications from interested firms, receiving, and reviewing statements of qualifications, and making a final recommendation to the airport sponsor based on the committee's review of the firms.

Figure B-1. Consultant Selection Process



When appointing members to the selection committee, the sponsor should make several considerations: the ideal committee size should be three (3) to five (5) members; at least one committee member should be an engineer, airport planner, or other aviation professional knowledgeable of the services required; the committee should be appointed based on an established administrative policy of the airport's governing body; and no selection committee member shall be involved directly or indirectly with any firm competing for the required services. Per 2 CFR 200.318(c)(1):

> "No employee, officer, or agent must participate in the selection, award, or administration of a contract supported by a federal award if he or she has a real or apparent conflict of interest. Such a conflict of interest would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the parties indicated herein, has a financial or other interest in or a tangible personal benefit from a firm considered for a contract. The officers, employees, and agents of the non-Federal entity must neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts.
>
> However, non-Federal entities may set standards for situations in which the financial interest is not substantial, or the gift is an unsolicited item of nominal value. The standards of conduct must provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the non-Federal entity."

To enhance compliance of the selection committees, committee members may elect to prepare and sign a consultant selection committee agreement that acknowledges that the individual committee members understand and intend to follow all applicable rules concerning the consultant selection process. This is not a requirement or specific recommendation made by the FAA or NCDOT Aviation.

B.2.3. Step 3: Create a Request for Qualifications (RFQ)

The RFQ is an advertisement that announces the airport sponsor's intention to enter a contract with a qualified consultant firm for services related to its grant-funded projects. The RFQ should note that any firms interested in submitting a Statement of Qualifications (SOQ) can be pre-qualified with NCDOT. In the event that an airport sponsor is interested in hiring multiple consultants it is recommended that the airport sponsor coordinate with NCDOT Aviation and request that NCDOT Aviation review the RFQ prior to the advertisement's publication. If the airport sponsor is preparing a standard RFQ that does not include the selection of multiple consultants, then a review by NCDOT Aviation is not recommended.

B.2.4. Step 4: Distribute RFQ/Solicit SOQs

Airport sponsors are expected to seek and engage the services of a qualified engineer or airport planner utilizing a qualifications-based selection process by advertising or soliciting RFQs. The sponsor should advertise in publications where the most qualified firms will see the advertisement, and for a period long enough to ensure as many potential firms will view the advertisement as possible. To ensure full and open competition, per §200.319(A), NCDOT Aviation recommends advertising for no less than two weeks, but preferably 30 days, utilizing a variety of media such as internet postings, newspaper, and trade association announcements or publications.

B.2.5. Step 5: Evaluate Pool of Qualified Applicants

Each member of the selection committee shall review and evaluate each SOQ. Per 2 CFR 200.319:

> "*The Non-Federal entity must ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, the non-Federal entity must not preclude potential bidders from qualifying during the solicitation period.*"

In addition, per 2 CFR 200.212:

> *"Non-federal entities and contractors are subject to the non-procurement debarment and suspension regulations implementing Executive Orders 12549 and 12689, 2 CFR part 180. These regulations restrict awards, subawards, and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs or activities."*

The selection committee may use a rating worksheet (see **Figure B-2)** that guides the reviewer through the process of evaluating each section, advising the reviewer on what he/she should be looking for in the information/qualifications provided and how the items in each section should be scored. The committee should note the guidelines pertaining to incomplete statements of qualifications and the disqualification of applications. An RFQ rating sheet should be used by committee members to document a consultant's scores based on their SOQs and will provide the committee with the basis by which to rank the firms once all reviews are complete.

B.2.6. Step 6: Interview and Rank Firms based on Experience and Qualifications

The airport selection committee should identify the top-ranking firms according to the combined rating worksheets. All firms should then be notified of the status of their application. The Short-List firms will be notified that they are on the Short-List for further evaluation in an interview. NCDOT Aviation recommends that three (3) firms be interviewed. The notification to interviewees should be a letter to each firm with an interview date and time and topics to be covered. All other firms should be notified that they were not selected for further evaluation.

The selection committee may score the consultants based on the interview utilizing a pre-defined scoring criterion (see **Figure B-3**). Once all interview rating worksheets have been completed, the results may be compiled on a consultant ranking sheet (see **Figure B-4**).

B.2.7. Step 7: Select and Notify Consultant

After the committee has reviewed all SOQs and completed interviews, they send a recommendation to the airport sponsor based on the final rankings and recommendations of the top-ranked firm. The top-ranked firm (or firms, if desired) will be notified of its selection by the airport sponsor, and to expect a request for a meeting to discuss detailed project scoping. The Short-List firms should be notified of the final ranking of firms, and that they may be contacted should negotiations with the top-ranked firm fail.

Note on Selecting Multiple Firms for Master Contracts

- Airports may not select multiple firms under one Master Contract and assign projects to firms later. The airport sponsor must avoid assigning projects later no matter how many firms are selected.
- **Airports may select multiple firms under one procurement act for multiple projects, as long as the procurement lists all relevant projects and assigns a selected firm at the time of award.**
- If airports are not clear on funding and are not sure of upcoming projects, it is best to procure one firm at a time under one procurement act once they know which project they would like to pursue. This may mean multiple procurement acts within a 5-year timeframe.
- This policy is outlined in Section 2.7 of AC 150/5100-14E Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects.

B.2.8. Step 8: Project Scoping Meeting, Negotiate Consultant Contract/Fee, and Perform Independent Cost Analysis of Consultant Fee

The procurement of consultant services can be either for several projects or for a single project. If the selection is for multiple projects, a "Master Services Agreement" (MSA), which contains the terms and conditions of the agreement, should be executed. Supplemental agreements or work orders for each individual project which contain the fees associated with that specific project should be developed prior to beginning any work. Although a MSA may include all projects for which services have been advertised, the scope and then fees must still be negotiated on a project-by-project basis. MSAs should be for a maximum of five (5) years.

If a consultant is selected for a single project, airport sponsors negotiate the scope of work separate from the fee. It is advisable that a project scoping meeting be held between the airport sponsor, its consultant, and NCDOT Aviation personnel, for GA airports, to discuss the scope of the project(s) for which the consultant has been selected.

To assure AIP and State funding eligibility, sponsors should not address fee information for the intended services until they complete the qualification-based selection process. The NCDOT Aviation APM will review proposed engineering costs to determine:

- **Reasonableness of Costs**: Based upon both the sponsor cost/price analysis and the NCDOT Aviation/price analysis.
- **Necessity of Costs**: Based on direct need in accomplishing the project work (includes an assessment of duplicate costs, corrective actions, and costs associated with errors and omissions).
- **Indirect Cost Rate**: Only the approved indirect cost rate, audited overhead rate, or loaded rate (approved by the Office of the Inspector General [OIG]) which is on file with the NCDOT, shall be considered eligible. This is NCDOT policy as well as a federal requirement per 2 CFR 200.331.

Consultants must secure annual approval of audited overhead rate and labor rates by the NCDOT's External Audit Branch.

The consultant should use the same rates in subsequent proposals and invoices.[1]

Costs the APM deems unreasonable or not necessary may not be eligible. Close coordination with the APM is essential.

A fee analysis is required by the airport sponsor for all engineering contracts per 2 CFR 323 and AC 150/5100-14E. The type of fee analysis will largely depend on the type of project and proposed scope of services and may range from a detailed Independent Fee Estimate (IFE) to a less formal fee analysis, as shown in **Table B-1**. For assistance in determining the appropriate level of fee analysis, the sponsor should contact their NCDOT Aviation APM for further guidance. The analysis will be used as the basis for negotiating with the number one ranked firm after the firm's fee estimate for the scope of work previously agreed upon by all parties has been received.

AC 150/5100-14 offers specific requirements of negotiation and IFE procedures, which should be consulted by Airport sponsors.

Sponsors are required to keep written records of both negotiations and IFEs.

Table B-1. Fee Analysis Based on Expected Contract Value

Expected Contract Value	Fee Analysis Type
$100,000 or More	Requires an IFE that is detailed and includes direct labor hours, labor rates, general and administrative overhead, non-salary expenses, and a reasonable profit.
More than $10,000, but less than $100,000	A less detailed fee comparison is adequate, such as comparing the fees with those on similar previous projects.
Less than $10,000	Only a written record of negotiations is required.

Source: AC 150/5100-14E, 2015.

B.3. Step 9: Issuing the Successful Consultant Notice to Proceed

Once an agreement is reached with a firm based on fees and a scope of services, a draft contract between the sponsor and the firm should be prepared. The required contract provisions as determined by the FAA can be found here. The following items should be included in a successful contract:

- Effective date of the agreement
- Name and description of the parties to the agreement
- Description of work
- Definition of services
- Delineation of ineligible work (if applicable)
- Identification of delivery schedule
- Delineation of responsibilities
- Incorporation of mandatory Federal provisions
- Provisions for re-negotiation in the event of a change in the scope of work
- Provisions for deliverable items such as reproducible plans and specifications and engineering reports
- Compensation provisions
- Provision for termination of services

[1] NC Department of Administration and the NCDOT External Audit Branch are currently working to streamline the audited overhead and labor rates requirements. Updates will be provided as they are available.

B.4. Additional Resources

- Advisory Circular 150/5100-14E, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects
- AIP Sponsor Guide 300, FAA Central Region
- Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors, FAA

Figure B-2. Preliminary Selection/Evaluation Form for Qualifications-Based Selection

This form can be used in the first step to short-list firms during an architectural/engineering/consulting services selection process.

Architect/Engineer/Consultant Services - Qualifications-Based Selection			
Evaluator #:		Date:	
Name of Firm:			
Name of Project:			
RFQ Reference			
Minimum Requirements (Including prequalified with NCDOT)		Yes: ☐	No: ☐
If the minimum requirements have not been met, specify the reason(s):			
Score (Project-Specific Qualifications)			
1. Project Team		**Weight[1] x Rating[2] = Score**	
☐	Qualifications and relevant individual experience.	_____x_____=____	
☐	Unique knowledge of key team members relating to the project.	_____x_____=____	
☐	Experience on projects as a team.	_____x_____=____	
☐	Key staff involvement in project management and on-site presence.	_____x_____=____	
☐	Time commitment of key staff.	_____x_____=____	
☐	Qualifications and relevant subconsultant experience	_____x_____=____	
2. Firm Capabilities			
☐	Are the lines of authority and coordination clearly identified?	_____x_____=____	
☐	Are essential management functions identified?	_____x_____=____	
☐	Are the functions effectively integrated (e.g., subconsultants' roles delineated?)	_____x_____=____	
☐	Current and projected workload.	_____x_____=____	
3. **Prior Experience/Performance**			
☐	Experience of the key staff and firm with projects of similar scope and complexity.	_____x_____=____	
☐	Demonstrated success on past projects of similar scope and complexity.	_____x_____=____	
☐	References.	_____x_____=____	
4. Project Approach			
☐	Budget methodology/cost control.	_____x_____=____	
☐	Quality control methodology.	_____x_____=____	
☐	Schedule maintenance methodology.	_____x_____=____	

5. Work Location		
☐	Proximity of firm's office as it may affect coordination with the state's project manager and the potential project location.	_____x_____=____
☐	Firm's familiarity with the project area.	_____x_____=____
☐	Knowledge of the local labor and material markets.	_____x_____=____
	Total Score:	_____[3]

Notes

1. Weights are to be assigned prior to evaluation and are to be consistent on all evaluation forms.

2. Rating: 1 = Unacceptable 2 = Poor 3 = Fair 4 = Good 5 = Excellent

3. Total score includes the sum total of all criteria. A passing score (as a percentage of the total points available) is to be established prior to selection (if applicable).

Figure B-3. Interview Selection/Evaluation Form for Qualifications-Based Selection

This form can be used in the second step, i.e., oral interview, in the architectural/engineering/consulting services selection process.

Architect/Engineer/Consultant Services - Qualifications-Based Selection			
Evaluator #:		Date:	
Name of Firm:			
Name of Project:			
Score (Overall Qualifications)[1]			
Scoring Category			**Weight[2] x Rating[3] = Score**
1. Project Team			_____x_____=____
2. Project Management			_____x_____=____
3. Project Approach			_____x_____=____
4. Prior Experience			_____x_____=____
5. Work Location			_____x_____=____
Total Score:			_____[4]
Notes			
1. Agencies are encouraged to include additional criteria that reflect the unique characteristics of the project under each category to help determine the submitter's overall qualifications.			
2. Weights are to be assigned prior to evaluation and are to be consistent on all evaluation forms.			
3. Rating: 1 = Unacceptable 2 = Poor 3 = Fair 4 = Good 5 = Excellent			
4. Total score includes the sum total of all criteria.			

Figure B-4. Final Ranking Matrix for Qualifications-Based Selection

This form can be used to rank and determine the most qualified architectural/engineering/consulting services firm in a selection process.

Firm	Qualifications Score[1]						Cumulative Total Score[2]	Rank[3]
	Eval #1	Eval #2	Eval #3	Eval #4	Eval #5	Eval #6		

Notes

1. Insert total score from each evaluator's PRELIMINARY SELECTION AND INTERVIEW SELECTION/EVALUATION FORM only.

2. Add all evaluators' total scores to determine the cumulative score. NOTE: Each firm's cumulative total score should be as a percentage of the total points available.

3. Rating: 1 = Unacceptable 2 = Poor 3 = Fair 4 = Good 5 = Excellent

Appendix C. Project Delivery Methods and Contract Types

Placeholder for updated information to be included by Mott Mac.

Appendix D. NCDOT Aviation Wildlife Hazard Management Program

D.1. Executive Summary

NCDOT Aviation's Wildlife Hazard Management Program is implemented in conjunction with the USDA Animal and Plant Health Inspection Services, Wildlife Services (USDA-APHIS WS). The program provides training, technical assistance, and support for recurring hazards.

In addition, GA public airports receive a Wildlife Hazard Site Visit (WHSV) at least once every three years. The WHSV reports are often shared with local governments, aeronautical users, and the public to communicate the measures that each airport have in place to mitigate the risks at their facility. WHSV reports provide data points and allow airports the ability to go back and measure if mitigation strategies have been successful while consulting with wildlife experts on the strategies or recommendations.

This program gives airport sponsors the ability to protect their airport from wildlife hazards and make data-informed decisions when applying for airport improvement projects that enhance safety of the airport and its users.

This appendix provides a detailed overview of NCDOT Aviation's Wildlife Hazard Management Program and provides additional information about how NCDOT Aviation partners with the USDA to mitigate wildlife hazards across the state.

D.2. NCDOT AVIATION Wildlife Hazard Management Program

NCDOT Aviation took notice of the growing trend of increased wildlife strikes reported by the FAA and established the state's Wildlife Hazard Management Program in 2004. Despite contributing to local and state economic growth, and playing a key role in multimodal transportation, Non-Primary airports typically share a smaller portion of federal funds compared to Primary airports, so NCDOT Aviation started this program to support Non-Primary airports in their wildlife management needs.

The FAA began a wildlife strike database in 1990. The database showed evidence of increasing aircraft strikes. Strikes were increasing for many reasons, including wildlife population increases and quieter aircraft engines.

The NCDOT Aviation, in partnership with the USDA, Animal and Plant Health Inspection Services, Wildlife Services (APHIS WS), provides wildlife hazard management, training, and mitigation services to public airports in NC in accordance with FAA guidance and recommendations. This unique partnership, 100% funded by state dollars, is designed to help airports uphold their federal grant assurances to "operate at all times in a safe and serviceable condition" for all aeronautical users of the airport.

All of North Carolina's 72 public airports receive benefits of the program, such as free training, learning industry best practices, and receiving data and recommendations for future improvement project prioritization.

The annual wildlife hazard management training has been embraced enthusiastically by North Carolina airports and NCDOT Aviation staff. Airport staff have come to anticipate announcements for the annual class schedule and reserve their seats early. They enjoy the first-hand accounts from other airports about the wildlife hazard challenges and victories they have encountered, and open discussion is encouraged in a relaxed classroom atmosphere.

D.2.1. USDA-APHIS WS

The first Cooperative Services Agreement (CSA) between the NCDOT Aviation and USDA APHIS WS was signed on October 28, 2004, with an emphasis on safety and education. The work plan for each agreement generally includes site visits to roughly one-third of the Non-Primary airports (each Non-Primary airport is inspected once every three years), regional training classes that are held across the state each year, and direct management activities on an as-needed basis for any public-use Non-Primary airport.

D.2.2. Wildlife Hazard Site Visit (WHSV)

USDA APHIS WS produces a deliverable report for each airport site visit. The Wildlife Hazard Site Visit (WHSV) report consists of a 3–5-page report unique to each airport. The WHSV extends across a 24-hour period with the intention of identifying the number and species of wildlife present, areas presenting wildlife attractants, and assessing wildlife hazard hot spots for each public-use airport. It is important to note that a written recommendation, made by a certified wildlife biologist, included in the WHSV report is required to justify any wildlife mitigation projects, including project requests for wildlife fencing.

The report consists of a detailed assessment of observations on the airfield and surrounding development. USDA APHIS WS will also work closely with airport sponsors assessing the overall strike activity or any significant strikes and use this data to assist their plan for surveying. During the survey,

and included in the WHSV report, species, number, and time of observations are tracked as shown in **Table D-1.**

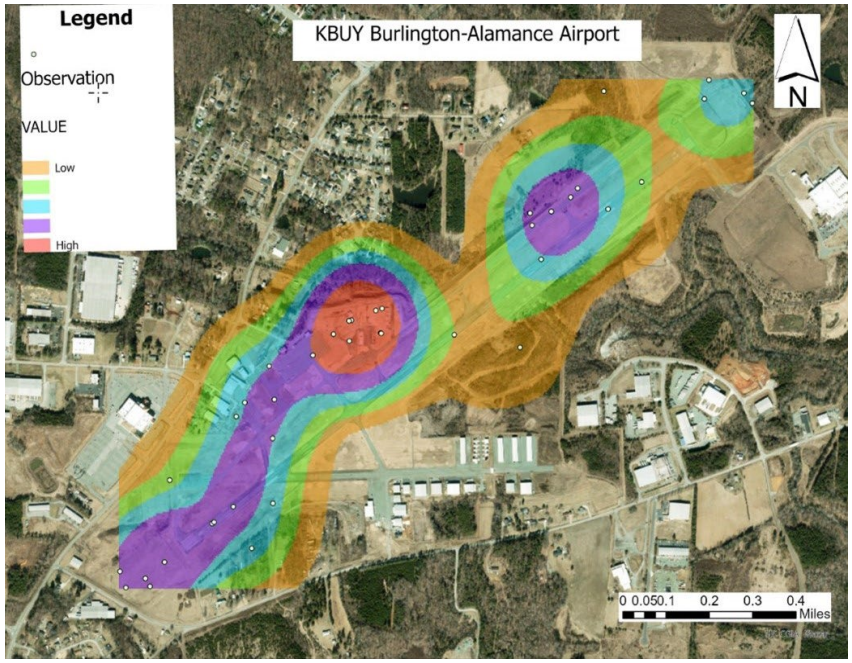
Table D-1. Wildlife Surveys

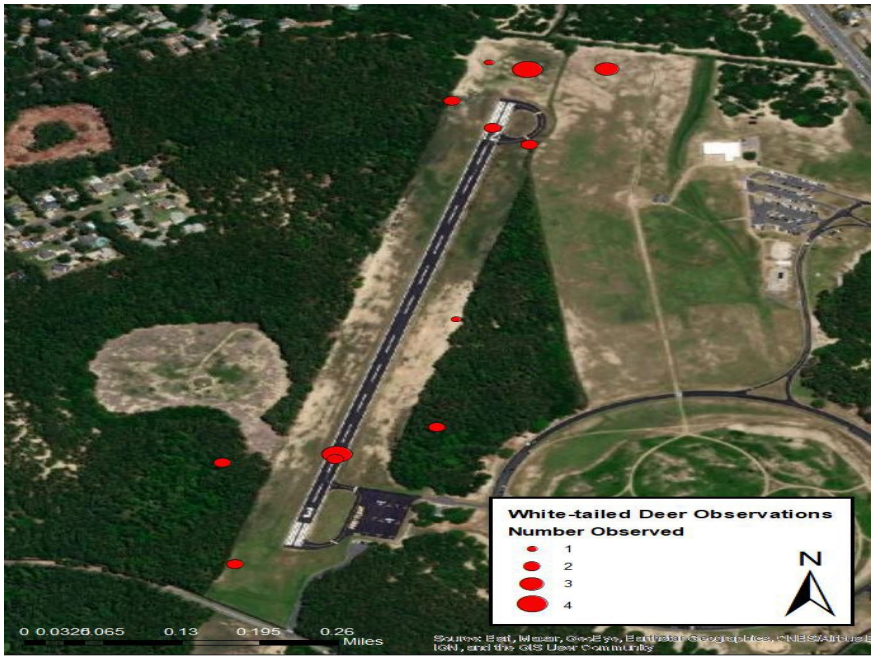
Species	Morning Survey	Mid-Day Survey	Evening Survey	Night Survey	Total
American crow	47		18		65
White-tailed deer	17		10	2	29
Carolina chickadee	14	5	3		22
Canada goose	16				16
Yellow-rumped warbler	6		3		9
Pine warbler	9				9
Blue jay	4	3	1		8
Turkey vulture	1	2			3
Carolina wren	1				1
Coyote	2				2
Brown thrasher			1		1
Eastern bluebird			1		1
Eastern kingbird			1		1
Northern flicker			1		1
Song sparrow			1		1
Summer tanager		1			1
Eastern phoebe	1				1
Laughing gull	1				1
Total (18 total species)	**119**	**11**	**40**	**2**	**172**

Another element of the WHSV report includes point counts of the surveys, displayed in density maps in **Figure D-1**. Finally, the site visit report provides recommendations tailored to each airport, which are based on observations from the site visit. These may include items such as obtaining USDA depredation permits, establishing a wildlife observation log, the use of harassment techniques, reporting strikes to the FAA, collection of bird species remains for identification by the Smithsonian Institute, elimination of ponds or ditches that promote standing water, mowing and habitat management, and perimeter security.

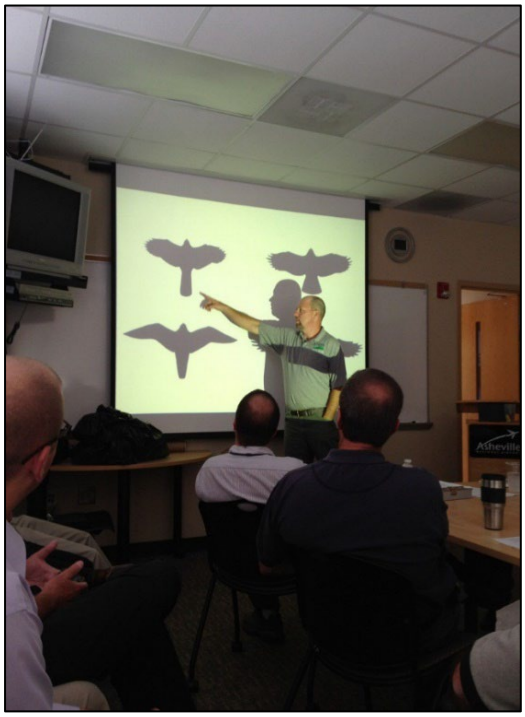
The WHSV report provides tangible evidence that airports are monitoring wildlife hazards, and it provides justification for wildlife hazard mitigation projects on the airport, such as wildlife fencing.

Figure D-1. Example of a Point Survey from a Wildlife Hazard Site Visit





D.2.3. Regional Wildlife Hazard Mitigation Training



The 2004 Part 139 Rule calls for mandatory training for airport operations personnel at any Part 139-certificated airport that has an active Wildlife Management Plan. With this requirement, the NCDOT Aviation saw an additional opportunity to assist smaller airports with limited revenues and include a training element as part of their CSA with the USDA. USDA staff are "qualified airport wildlife biologists," per FAA guidance, who led the one-day on-airport training courses. The trainings focus on recognizing and mitigating wildlife hazards to aviation as specified in 14 CFR 139 .337 and 14 CFR 139 .303."

The training has continued to evolve through the years and has been widely commended by attendees as enjoyable and informative. Biologists give a thorough presentation including need for training; types of wildlife hazards; permits, regulations, and policies associated with wildlife hazard management; basic bird and other wildlife identification; airport wildlife hazard log and strike reporting; and wildlife management techniques for airports.

One of the best aspects of the training has been the relationship that airport staff have built with USDA-APHIS WS. The airports now have a point of contact when they need immediate assistance with a sudden problem or particular wildlife hazard. The USDA-APHIS WS biologists are talented trainers and keep their students engaged and inquisitive. In the early days of classes, the biologists shared anecdotes of their experiences with wildlife on airports. However, it is now common for attendees to share their own experiences and lessons learned with the biologists and other attendees.

Results of the ongoing Wildlife Hazard Management Program are evident in the increased awareness of wildlife hazards at airports, the positive response to training, and regular requests for direct management provided by USDA APHIS WS to state airports. Goals for the future include continued recurring updates to the WHSV assessments and reports, expanded training and firsthand skills development for airport staff, continual evolution of wildlife hazard awareness, and coordination with state environmental permitting agencies to assist in the reduction of wildlife attractants at airports.

Appendix E. NCDOT Aviation Automated Weather Observing Systems (AWOS) Policy

The purpose of this document is to outline the AWOS program that has been developed by the NCDOT Aviation for all non-federal AWOS units in North Carolina.

E.1. Introduction

Weather is a critical factor for pilots to consider and is one of the primary contributing factors in GA accidents. The availability of on-sight weather reporting at airports is extremely valuable to pilots by providing an increased level of safety. Automated weather units typically provide basic weather data including temperature, dew point, density altitude, altimeter setting, wind speed, and wind direction. More advanced units also provide data such as visibility, sky conditions, precipitation types, and thunderstorm sensing. On-site weather is required at airports with an instrument approach in order to provide the lowest approach minimums.

One of the most common automated weather systems in use throughout the U.S. is the Automated Weather Observing System (AWOS), which is certified for aviation use by the FAA. AWOS units are typically owned and operated locally; however, between 1998 and 2003, NCDOT Aviation purchased and installed 31 AWOS units at airports across North Carolina. NCDOT Aviation maintains the equipment at these 31 units, plus an additional 16 AWOS units that are owned by airports (for a total of 46 AWOS units). Furthermore, FAA owns, operates, and maintains 21 AWOS/ASOS units in North Carolina. In summary, there are a total of 68 automated weather systems in North Carolina. Air traffic control towers (ATCTs) exist at 12 of these locations.

Information on FAA ASOS/AWOS stations can be found here: Surface Weather Observation Stations (ASOS/AWOS)

The intent of the NCDOT Aviation AWOS program is to continue to maintain existing AWOS units (as well as any future AWOS systems added by NCDOT Aviation within North Carolina), to (i) replace AWOS units based upon a verified need, and/or (ii) install new AWOS units based upon a qualified and verified need established by an airport. All of these activities are subject to funding availability. NCDOT Aviation's priority will be funding maintenance operations, replacement of existing units, and installation of new units, respectively. In summary, the goal is to enhance the safety of flight and the utilization of North Carolina's air transportation system.

E.2. NCDOT Aviation Responsibilities

Subject to funding availability, upon receipt of a signed agreement from an airport/sponsor (in such form as will be supplied by NCDOT Aviation), and upon determination by NCDOT Aviation as to the benefit to North Carolina's air transportation system, NCDOT Aviation will provide the following:

- **Routine maintenance and repairs on AWOS units**
  For all AWOS units in the state (excluding those that are ferally maintained), the NCDOT Aviation will provide the required 24/7 AWOS technician availability and will pay 100 percent of costs for all scheduled (i.e., periodic) and unscheduled (i.e., repair) maintenance operations. These operations shall be performed in accordance with the FAA requirements in AC 150/5220-16E or latest version, the AWOS manufacturer's recommendations including - at a minimum - tri-annual

maintenance (not to exceed more than 155 days between maintenance inspections), and the FAA annual revalidation inspection.

- **AWOS NADIN Data Collection Service**
  For all AWOS units in the state that are not federally owned and maintained, the NCDOT Aviation will cause to be performed and will pay 100 percent of materials and installation costs for installation and maintenance of the equipment necessary to perform the data collection. This includes all necessary FAA approved and required hardware, software, interface, and operation and connection of the data link to the Weather Message Switching Center Replacement (WMSCR). Data shall be transmitted a minimum of three (3) times per hour by the NCDOT Aviation's approved contractor to WMSCR.

- **Installation of replacement AWOS units at existing AWOS locations**
  Upon decision by NCDOT Aviation to replace an existing AWOS unit, the NCDOT Aviation will cause to be performed, and will pay such percentage of costs, as may be deemed eligible by NCDOT Aviation. The NCDOT Aviation will first conduct a project evaluation meeting with the sponsor in which responsibilities for funding for the project will be established by NCDOT Aviation. It is the NCDOT Aviation's intent to pay 100% of material costs associated with the installation or replacement of the AWOS unit. The sponsor will be responsible for labor and additional costs as determined by NCDOT Aviation.

- **Installation of new AWOS units**
  Upon decision by NCDOT Aviation to install a new AWOS unit, the NCDOT Aviation will cause to be performed, and will pay such percentage of costs, as may be deemed necessary by NCDOT Aviation. The NCDOT Aviation will first conduct a Project Evaluation Meeting with the sponsor in which responsibilities for funding for the project will be established by NCDOT Aviation. It is the NCDOT AVIATION's intent to pay 100% of materials associated with the installation or replacement of the AWOS Unit The sponsor will be responsible for labor and additional costs as determined by the NCDOT Aviation.

E.3. Airport/Sponsor Responsibilities and Requirements

Airport sponsors should consult the AWOS Installation and Replacement/Relocation Request Process document for a list of airport sponsor responsibilities and requirements for acquiring a new, or replacing or relocating an AWOS. Responsibilities include coordinating the Independent Fee Estimate process, coordinating final inspection of the installation, and more. The airport/sponsor will pay 100 percent of costs associated with the following items:

- Complete insurance coverage for AWOS equipment (including coverage for "Acts of God"), with NCDOT Aviation as an additional insured. The sponsor will provide a copy of the Declaration page to NCDOT Aviation.
- Provide an acceptable and continuous source of electrical power and communications service to the AWOS site as specified by NCDOT Aviation.
- Acquire all land necessary for the AWOS and its operation, either by purchase or lease.
- Installation of AWOS must adhere to FAA and NCDOT engineering guidance and design standards for grounding.

- Installation of AWOS must be performed by FAA-certified AWOS technician to be accepted into FAA nationwide AWOS system.
- Maintenance of AWOS site in compliance with the siting requirements per FAA Order 6560.20C, or latest version, Siting Criteria for AWOS.
- Completion and submittal of all required forms and documentation, including FAA Form 7460, to all local, state, and federal agencies, including the FAA and FCC, for the removal of the existing AWOS and/or the installation of the new AWOS.
- All engineering/civil costs associated with the removal of the existing AWOS and/or the installation of the new AWOS.
- All labor costs associated with the removal of the existing AWOS and/or the installation of the new AWOS equipment.
- All such other costs associated with the removal of the existing AWOS and/or the installation of the new AWOS which are not covered by NCDOT AVIATION (see Section 3. C. and D. above).
- In the instance of removal of an existing AWOS unit, removal must be performed by FAA-certified AWOS technician, in order to preserve integrity of AWOS unit and provide for salvageable parts to be re-entered into service.
- In the instance of removal of an existing AWOS unit, provide a secure storage location on airport site—protected from weather—for parts identified by NCDOT Aviation and/or its contractor as salvageable. Equipment must also be stored appropriately prior to installation.
- Routine landscape maintenance of the AWOS site, such as mowing, clearing, and snow removal.
- Issue Notices to Air Missions (NOTAMs) as required.

E.4. Eligibility Requirements

In addition to the qualifying factors outlined in Section 3 above, for an AWOS project to be considered by NCDOT Aviation for this AWOS Program, the airport/sponsor must be part of the NPIAS.

E.5. Anticipated Program Outcome

Subject to funding availability, NCDOT Aviation anticipates this program will annually fund a maximum of up to two (2) AWOS unit replacements and one (1) new AWOS unit installation.

E.6. Other Funding

This AWOS Program is not meant to prohibit an airport/sponsor from obtaining funding from another source, whether state or federal, for the replacement or installation of a new AWOS Unit. However, the NCDOT Aviation will maintain all new AWOS units, excluding those that are owned by the FAA.

E.7. AWOS Project Evaluation Criteria

For a proposed AWOS project that includes the installation of new or replacement AWOS unit, under, NCDOT Aviation, at its sole discretion, will consider the following relevant factors (including, but not limited to, the below criteria) in determining which sites will be eligible for a replacement AWOS or new installation AWOS:

- Benefit to North Carolina's air transportation system.
- Extent to which location increases AWOS coverage for the state.
- Does the airport/sponsor have (or has it requested) FAA terminal procedures.

- Age and useful life of the existing AWOS unit.
- Maintenance and report history/costs of an existing AWOS unit.
- Previous upgrades performed and/or required for an existing AWOS unit.
- Completion and submission by airport/sponsor of all required forms and documentation, including FAA Form 7460, to all local, state, and federal agencies, including the FAA and FCC, for the removal of the existing AWOS and/or the installation of the new AWOS;
- Preliminary civil work by airport/sponsor to determine appropriate siting pursuant to FAA Order 6560.20C, or latest version, Siting Criteria for AWOS; and
- A clear area/radius of 500' and 1,000' is required for the AWOS area

E.8. AWOS Project Request

An airport sponsors first step involved in requesting an AWOS project is contacting their regional Airport Project Manager to discuss the proposal. The airport must also submit a request for the AWOS siting approval to the FAA or otherwise provide proof of FAA approval of the AWOS location. The Airport Sponsor engages in the project process from beginning to end, including coordinating the final inspection and maintaining utilities and clearing surfaces of the AWOS throughout the life of the equipment. A complete list of steps involved in the AWOS project request process is included in the AWOS Installation and Replacement/Relocation Request Process document.

E.9. AWOS Construction Period

Airport/sponsor shall attend meetings and shall be responsive to requests from NCDOT Aviation throughout the project construction period. Airport/sponsor shall comply with E.4 as noted above and shall attend final walk-through of project.

Appendix F. Airport Development Plan

F.1. Introduction

In 2004, NCDOT Aviation developed its General Aviation Airport Development Plan (GAADP), which included an airport groupings analysis (an evaluation of airport roles within the State), as well as facility and development standards and priorities for Non-Primary airports that are eligible for federal and State programs. The purpose of the GAADP was to identify the deficiencies that North Carolina's Non-Primary airports needed to address and provide a systematic and strategic approach for the NCDOT Aviation to address those needs. The GAADP was updated and revised in 2006 and has served as a guide for Non-Primary airport development since that time. The airport development categories included in the 2006 GAADP reflect the specifications for various airport facilities, design standards, and protection of the airport facilities. It is important to note that Airport Development Plans (ADPs) for GA airports are updated by the APMs are projects are completed and reviewed during their annual planning meetings.

In July 2013, Governor McCrory codified the Strategic Transportation Investments (STI) law**.** The focus of STI is on capital projects for all modes of transportation, including aviation. It provides the funding formula for capital expenditures and outlines the categories of funding eligibility (Statewide Mobility, Regional Impact, and Division Needs). As a result of funding changes from STI, the GAADP was revised and updated as part of the North Carolina State Airport System Plan (NCASP) completed in 2015 to include Primary airports in a new "Yellow" airport grouping. With the inclusion of Yellow airports, the GAADP was renamed the Airport Development Plan (ADP).

With the new STI law, the State's funding of airports has changed. In addition to changes in state funding, the aviation industry in the U.S. and North Carolina has continued to evolve since the GAADP was last revised in 2006. This includes overall declines in national GA activity, changes to the aircraft fleet and utilization, and pilot reductions. There have also been significant changes to the FAA's airport design standards. The State's airport system has also changed. Concord Regional is now providing commercial airline service and many airports in the State have either experienced activity growth or declines. These changes warranted revisiting the airport development categories (subsequently referred to as ADP categories), including the inclusion of the Yellow airport grouping and updating the categories to provide objectives for Yellow airports. In addition to updating ADP categories, several new categories were added. These new categories include:

- Airport Layout Plans
- Hangars
- Fuel Facilities

During the NCASP process, it was determined that "objectives" would be developed for each of the ADP categories as opposed to the minimum and recommended goals that were included in the GAADP.

The ADP continues emphasizing safety, infrastructure health, future development, and promoting economic growth while not losing sight of the needs unique to the individual airports. Airport sponsors are encouraged to take an annual inventory of their airport using the standards and guidelines as set forth in the ADP. The results of this exercise will assist the airport in the development of both short- and long-term plans to address the identified needs.

F.2. State Airport System and Airport Groupings

NCDOT Aviation developed the Airport Groupings Model as part of its 2004 GAADP to aid in determining the role an individual airport plays in its given community. The original Airport Groupings Model was based on data from 2000 using economic development parameters provided by the North Carolina Department of Commerce. In 2013, as part of the NCASP, the model was updated to reflect socioeconomic conditions based on 2010 census and other demographic data. In addition to the three airport groupings (Red, Blue, and Green) for the Non-Primary airports that were previously included in the model, the need for inclusion of the Primary airports into the process was determined. Therefore, all airports with scheduled commercial airline service were assigned to a new "Yellow" grouping based on service, not based on the resulting score from applying the model.

For a listing and map of North Carolina's 72 publicly owned airports by grouping, refer to **Appendix G. NCASP Airport Groupings**. More detail regarding the airport grouping methodology and changes from the previous model can be found in Chapter 4 of the NCASP.

F.2.1. Airport Development Plan Categories

Definitions and objectives have been developed for the airports in each airport grouping (Yellow, Red, Blue, and Green) for 23 categories as shown in **Table F-1.** System objectives for each of the ADP categories were established in the NCASP. These objectives present the minimum level of development that the airport should have to meet its recommended grouping or system role. Meeting minimum levels of development based on an airport's grouping, or system role, does not provide justification or eligibility for a project. It is possible that some airports may have facilities or services that are in excess of those identified for the grouping. It is also important to note that some airports may not be able to meet objectives due to physical or other constraints.

Table F-1. ADP Airport Development Categories

050: Airport Layout Plan	1200: Aircraft Apron Requirements
100: Runway Approach	1300: Terminal Building
200: Runway Safety Area	1400: Taxiway & Apron Edge Lighting
300: Runway Protection Zones	1500: Airfield Signage
400: Pavement Condition	1600: Ground Communication
500: Runway Length	1700: Approach Lighting
600: Pavement Strength	1800: Aircraft Rescue & Fire Fighting (ARFF) Equipment
700: Visual Navigation Aids	1900: Hangars
800: Runway Edge Lighting	2000: Equipment & Storage Building
900: Weather Reporting Capability	2100: Perimeter Fencing
1000: Standard Instrument Approach Procedures	2200: Fuel Facilities
1100: Taxiway Requirements	

As noted previously, three new categories were added to the ADP since 2006. These categories include:

- 050: Airport Layout Plan
- 1900: Hangars
- 2200: Fuel Facilities

Other changes to the ADP since 2006 include moving "1900 Airfield Maintenance Equipment & Storage Building" to 2000 and moving "2000 Perimeter Fencing" to 2100.

F.3. ADP Objectives

Table F-2 summarizes the ADP system objectives by airport grouping. These objectives help to inform maintenance and improvement needs at public airports. The categories are listed in order of priority, so #050 projects are likely to be addressed before #700 projects. Detailed notes that offer more information on these objectives, such as additional context on each development category, relationships between ADP categories, how objectives were determined, and more is presented in **Table F-3**. If an ADP category is not listed in **Table F-3** then no additional notes are available.

Table F-2. ADP System Objectives

Development Category		System Objectives			
		Commercial Service (Primary)	*General Aviation (Non-Primary)*	*General Aviation (Non-Primary)*	*General Aviation (Non-Primary)*
		Yellow	Red	Blue	Green
050	**Airport Layout Plan (ALP)**	Every 10 years or as needed	Every 10 years or as needed	Every 10 years or as needed	Every 10 years or as needed
100	**Runway Approach**	Clear Threshold Siting Surface on all Runway Ends	Clear Threshold Siting Surface on Primary Runway	Clear Threshold Siting Surface on Primary Runway	Clear Threshold Siting Surface on Primary Runway
200	**Runway Safety Area (RSA)**	Meet Runway Design Code (RDC)	Meet Runway Design Code (RDC)	Meet Runway Design Code (RDC)	Meet Runway Design Code (RDC)
300	**Runway Protection Zone (RPZ)**	Fee Simple	Fee Simple	Fee Simple	Fee Simple
400	**Pavement Condition**	PCI>75	PCI>75	PCI>75	PCI>75
500	**Runway Length**	6500'	6000'	5000'	4200'
	Runway Width	150'	100'	100'	75'
600	**Pavement Strength**	Per Pavement Classification Number (PCN) Analysis	> 60,000lbs SW or DW or Per PCN Analysis if a P139	> 30,000lbs SW or DW and < 60,000lbs SW or DW or Per PCN Analysis if a P139	< 30,000lb SW or DW and > 12,500lb SW or DW
700	**Visual Navigational Aids**	Rotating Beacon, Lighted Windsock, PAPI-4	Rotating Beacon, Lighted Windsock, PAPI-4	Rotating Beacon, Lighted Windsock, PAPI-4, REILs	Rotating Beacon, Lighted Windsock, PAPI-2, REILs

Development Category		System Objectives			
		Commercial Service (Primary)	*General Aviation (Non-Primary)*	*General Aviation (Non-Primary)*	*General Aviation (Non-Primary)*
		Yellow	Red	Blue	Green
800	**Runway Edge Lighting**	HIRL	MIRL	MIRL	MIRL
900	**Weather Reporting Capability**	AWOS-IIIP	AWOS-III	AWOS-III	AWOS-III
1000	**Standard Instrument Approach**	PA <250' and < 3/4m	APV 250' - 3/4m	APV 250' - 3/4m	APV 400' - 1m
1100	**Taxiway**	Full Parallel	Full Parallel	Full Parallel	Full Parallel
1200	**Aircraft Apron**	20% Based Aircraft + 20% Busy Day Transient (GA)	25% Based Aircraft + 20% Busy Day Transient	25% Based Aircraft + 20% Busy Day Transient	50% Based Aircraft + 20% Busy Day Transient
1300	**General Aviation Terminal Building**	Commercial Passenger Terminal-Not Eligible. General Aviation Terminal Bldg/Parking per Master Plan	5,500 SF Terminal/Admin Bldg w/ FBO - Public Meeting Area-Restrooms and 1 auto space per based aircraft + 50% for visitors/ employees	4,500 SF Terminal/Admin Bldg w/ FBO - Public Meeting Area-Restrooms and 1 auto space per based aircraft + 50% for visitors/ employees	3,200 SF Terminal/Admin Bldg w/ FBO- Public Meeting Area-Restrooms and 1 auto space per based aircraft + 20% for visitors/ employees
1400	**Taxiway & Apron Edge Lighting**	MITL	MITL	MITL	Reflective Markers
1500	**Airfield Signage**	Runway Hold Position, Location, Guidance, and Distance Remaining	Runway Hold Position, Location, Guidance, and Distance Remaining	Runway Hold Position, Location, and Guidance	Runway Hold Position, Location, and Guidance
1600	**Ground Communication**	UNICOM,RCO or GCO	UNICOM, RCO or GCO	UNICOM, RCO or GCO	UNICOM, RCO or GCO
1700	**Approach Lighting**	ALS	ALS	ALS	ALS
1800	**ARFF Equipment**	As required by Part 139	Case by Case	Case by Case	Case by Case
1900	**Hangars**	Not eligible	75% Based Aircraft	75% Based Aircraft	50% Based Aircraft
2000	**Airfield Maintenance Equip/Storage Building**	Not eligible	Approved Tractor/ Building	Approved Tractor/ Building	Approved Tractor/ Building
2100	**Perimeter Fencing**	Not eligible	Perimeter	Perimeter	Perimeter

Development Category		System Objectives			
		Commercial Service (Primary)	*General Aviation (Non-Primary)*	*General Aviation (Non-Primary)*	*General Aviation (Non-Primary)*
		Yellow	Red	Blue	Green
2200	**Fuel Facilities**	Not eligible	Based on Demand	Based on Demand	Based on Demand

Table F-3. ADP Category Notes and Eligibility Information

Development Category		Additional Notes
050	**Airport Layout Plan (ALP)**	*For a detailed description of the components of an ALP, see FAA AC 150/5070-6B, Change 2, Airport Master Plans, current revision. The development of electronic ALPs should also be considered with the continued focus of the FAA on its Airports GIS program.*
100	**Runway Approach**	*Approach Obstruction Removal projects will only be funded for the part of this surface that has not been previously funded. Approach Obstruction Removal project requests for secondary and tertiary runways at Red, Blue, and Green airports will be reviewed and approved on a case-by-case basis only.*
200	**Runway Safety Area (RSA)**	*As the RDC for the airport increases, the RSA should be adjusted accordingly and meet the new dimensions as listed in FAA AC 150/5300-13B, Airport Design, latest revision. RSA design standards should be coordinated with 300. Runway Protection Zones, as they are related surfaces. These areas (200. Runway Safety Area and 300. Runway Protections Zones) should be reviewed to ensure all areas meet the most restrictive standards as outlined in 100. Runway Approach. The only alternatives available for RSA compliance include the use of declared distances and engineered materials arresting system (EMAS).*
300	**Runway Protection Zone (RPZ)**	*RPZ design standards should be coordinated with 200. Runway Safety Areas as they are related surfaces. These areas (200. Runway Safety Area and 300. Runway Protections Zones) should be reviewed to ensure all areas meet the most restrictive standards as outlined in 100. Runway Approach. In order to comply with this objective, airports could purchase property, secure easements, use other zoning controls to regulate development or, if necessary, work with local jurisdictions to plan for relocation of infrastructure that is within the RPZ.*
400	**Pavement Condition**	*NCDOT Aviation uses the Pavement Condition Index (PCI) method to evaluate the pavement conditions of airfield pavement to determine funding eligibility for state and/or federal funding. The PCI method is an objective system using visual inspection data to assign a numerical value to a section of pavement based on its current condition. The values range from 100 to 0, with 100 being a pavement section in perfect condition to 0 being a totally failed pavement. In order for an airport pavement section to be eligible for funds under the category of Pavement Condition, the pavement section must have a PCI less than or equal to 75. In some cases, minor preventative maintenance may be performed on pavement sections where the PCI is greater than 75.*

Development Category		Additional Notes
		General pavement condition guidelines are as follows: • ***If PCI < 55 (or 5-year predicted < 55):*** *Repair and rehabilitation of pavement section (partial and full patching, overlay, and surface treatments)* • ***If PCI 75 ≤ 55****: Preventative maintenance (including crack and joint sealing, surface treatments and sealcoats).* • ***≥75****: No action necessary.* *Secondary and tertiary runways and associated taxiways, T-hangar taxiways, corporate taxiways, and other associated areas will be considered for eligibility on a case-by-case basis.*
500	**Runway Length** **Runway Width**	*It should be noted that any runway extension project will need to consider the need to adjust RSAs and RPZs. Before objectives can be met, airports must consider their ability to meet FAA planning criteria.*
600	**Pavement Strength**	*Secondary and tertiary runways and associated taxiways, T-hangar taxiways, corporate taxiways, and other associated areas will be considered for eligibility on a case-by-case basis.*
1000	**Standard Instrument Approach**	*For airports with a Standard Instrument Approach Procedure (SIAP), FAA Order 8260.3F, "Terminal Instrument Procedures," (TERPS) current revision approach surfaces should be maintained clear for the lowest published minimum approach.*
1100	**Taxiway**	*FAA AC 150/5300-13B, Airport Design provides current requirements for planning visibility minimums for instrument approaches and design standards for taxiways. Airports should use the most current version available of the AC.*
1300	**General Aviation Terminal Building**	*Building may include general office space, a lobby area, and a pilot's lounge. Funding eligibility can be granted for first time new building construction and existing buildings that have exceeded 20 years since the new construction/renovation. Buildings constructed within the last 20 years are not eligible for funding. Building renovations may be eligible for funding for buildings less than 20 years old if there is justification that is substantiated and available funding.* *Terminal access road and non-revenue public parking (not to exceed 20 spaces) will have the same priority as the terminal building but funding not included in the terminal building cost*
1600	**Ground Communication**	*Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR), Omni Directional Approach Lighting System (ODALS), or other Approach Lighting System (ALS) systems will be considered.*
1900	**Hangars**	*Aircraft storage buildings will be considered when all airside safety needs have been met. Ownership and control of the hangar must reside with the Airport Sponsor.*
2200	**Fuel Facilities**	*Aircraft fuel facilities will be considered when all airside safety needs have been met. Ownership and control of the facility must reside with the Airport Sponsor.*

F.4. Project Selection Criteria/Priority Rating

NCDOT Aviation utilizes a prioritization process to rank the importance and priority of all requested airport projects. The first prioritization process was adopted in 1996. In 2006, the process was updated and streamlined to bring it in line with the goals of the GAADP. In 2014, the process was again updated to reflect the change from the GAADP to the ADP, as well as the inclusion of Primary airports. This prioritization is a data-driven process that assigns point values based on the priority and need of the project. In addition to the structured priority system that is used, NCDOT Aviation recognizes that there will be instances where proposed projects do not fall within the framework of their priority rating system. When these instances occur, NCDOT Aviation staff may adjust the priority. In some cases, priorities are adjusted based on the following factors:

- Costs – Does the project fit with available funds?
- Geography – What impacts will geography have on the feasibility of the project?
- Airspace Constraints – Is the project feasible based on the available airspace?
- Local Support – Is there sufficient interest by local government? Historically, how well have the local government/sponsors supported the airport and/or its projects?
- Transportation, Industry, and Regional Impacts – Is there a special need by local or regional industry? Is there available adequate transportation to support the project?
- Airport Infrastructure – Do the existing airport facilities complement the project?
- Based Aircraft – Does the project have merit based on the number of aircraft based at the airport?
- Aircraft Operations – Does the airport have merit based on the number of aircraft operations at the airport?

For more detailed information on NCDOT Aviation's Priority Rating System refer to **Appendix I. Project Priority Rating System.**

Appendix G. Airport Groupings

The following provides a listing of the airport groupings that were used in the most recent North Carolina Airport Development Plan (NC ADP) and the North Carolina State Airports System Plan (NCASP) to define the role an airport plays in the state. The number of airports by their current grouping (Yellow, Red, Blue, and Green) is summarized as follows:

- Yellow Group – Primary Airports (10 airports)
- Red Group – Regional/Business Airport (16 airports)
- Blue Group – Community Airport with Business Aircraft Capability (26 airports)

Table G-1 – Table G-4 provide a list of airports within each airport grouping and **Figure G-1** shows a map of the airports by their grouping.

Table G-1. Airports in the Yellow Airport Grouping

Associated City	Airport Name	2014 Airport Grouping
Asheville	Asheville Regional	Yellow
Charlotte	Charlotte/Douglas Int'l	Yellow
Concord	Concord Regional	Yellow
Fayetteville	Fayetteville Regional/Grannis Field	Yellow
Greensboro	Piedmont Triad Int'l	Yellow
Greenville	Pitt-Greenville	Yellow
Jacksonville	Albert J. Ellis	Yellow
New Bern	Coastal Carolina Regional	Yellow
Raleigh	Raleigh-Durham Int'l	Yellow
Wilmington	Wilmington Int'l	Yellow

Table G-2. Airports in the Red Airport Grouping

Associated City	Airport Name	2014 Airport Grouping
Beaufort	Michael J. Smith Field	Red
Burlington	Burlington-Alamance Regional	Red
Currituck	Currituck County Regional	Red
Franklin	Macon County	Red
Hickory	Hickory Regional	Red
Lexington	Davidson County	Red
Manteo	Dare County Regional	Red
Monroe	Charlotte-Monroe Executive	Red
Oak Island	Cape Fear Regional Jetport-Howie Franklin Field	Red
Pinehurst/Southern Pines	Moore County	Red
Rocky Mount	Rocky Mount-Wilson Regional	Red
Salisbury	Rowan County	Red

Associated City	Airport Name	2014 Airport Grouping
Sanford	Raleigh Exec Jetport at Sanford-Lee County	Red
Smithfield	Johnston County	Red
Statesville	Statesville Regional	Red
Winston-Salem	Smith Reynolds	Red

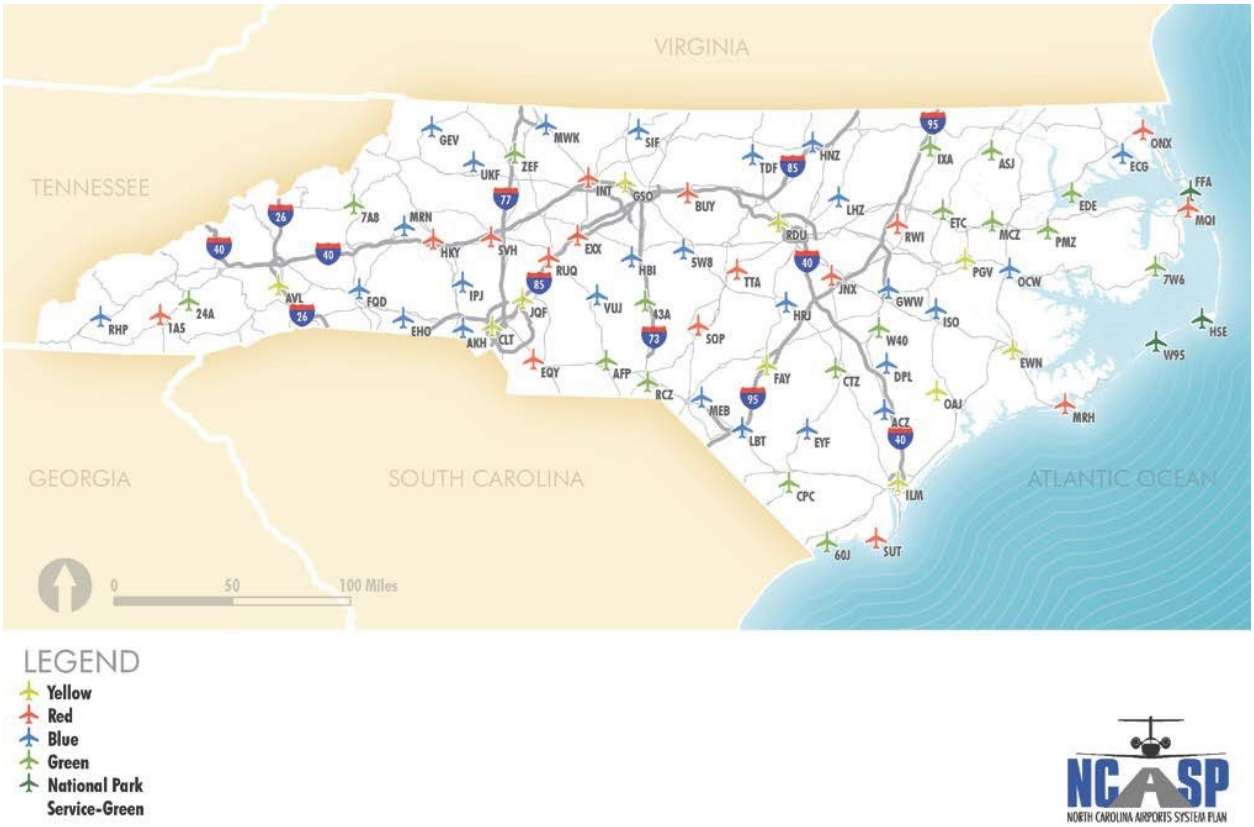
Table G-3. Airports in the Blue Airport Grouping

Associated City	Airport Name	2014 Airport Grouping
Albemarle	Stanly County	Blue
Andrews	Western Carolina Regional	Blue
Asheboro	Asheboro Regional	Blue
Elizabeth City	Elizabeth City CG Air Station/Regional	Blue
Elizabethtown	Curtis L Brown Jr Field	Blue
Erwin	Harnett Regional Jetport	Blue
Gastonia	Gastonia Municipal	Blue
Goldsboro	Wayne Executive Jetport	Blue
Jefferson	Ashe County	Blue
Kenansville	Duplin County	Blue
Kinston	Kinston Regional Jetport at Stallings Field	Blue
Lincolnton	Lincolnton Lincoln County Regional	Blue
Louisburg	Triangle North Executive	Blue
Lumberton	Lumberton Regional	Blue
Maxton	Laurinburg-Maxton	Blue
Morganton	Foothills Regional	Blue
Mount Airy	Mount Airy/Surry County	Blue
North Wilkesboro	Wilkes County	Blue
Oxford	Henderson-Oxford	Blue
Reidsville	Rockingham County NC Shiloh	Blue
Roxboro	Person County	Blue
Rutherfordton	Rutherford County-Marchman Field	Blue
Shelby	Shelby-Cleveland County Regional	Blue
Siler City	Siler City Municipal	Blue
Wallace	Henderson Field	Blue
Washington	Warren Field	Blue

Table G-4. Airports in the Green Airport Grouping

Associated City	Airport Name	2014 Airport Grouping
Ahoskie	Tri-County	Green
Clinton	Clinton-Sampson County	Green
Edenton	Northeastern Regional	Green
Elkin	Elkin Municipal	Green
Engelhard	Hyde County	Green
Hatteras	Billy Mitchell (NPS)	Green
Kill Devil Hills	First Flight (NPS)	Green
Mount Olive	Mount Olive Municipal	Green
Ocean Isle Beach	Odell Williamson Municipal	Green
Ocracoke	Ocracoke Island Airport (NPS)	Green
Plymouth	Plymouth Municipal	Green
Roanoke Rapids	Halifax-Northampton Regional	Green
Rockingham	Richmond County	Green
Spruce Pine	Avery County/Morrison Field	Green
Star	Montgomery County	Green
Sylva	Jackson County	Green
Tarboro	Tarboro-Edgecombe	Green
Wadesboro	Anson County-Jeff Cloud Field	Green
Whiteville	Columbus County Municipal	Green
Williamston	Martin County	Green

Figure G-1. Map of Airports by Airport Groupings



Appendix H. Typical Eligible and Ineligible Projects Under NC GS Chapter 63

This appendix contains a range of typical eligible and ineligible work elements considered to meet the provisions of North Carolina General Statute Chapter 63. As with most compilations, it is not inclusive with regard to either eligible or ineligible work elements. Sponsors wishing to undertake a work element that is not listed in this chapter should contact NCDOT Aviation for further guidance on the eligibility of the specific work element contemplated. Project categories provided in this appendix are:

- Planning and Design Projects
- Land Acquisition
- Cleaning and Grubbing
- Site Preparation and Drainage
- Paving and Marking
- Lighting
- Electronic Air Navigation Aids
- Terminal/Administration Building
- Safety and Security Equipment
- Miscellaneous Items

Planning and Design Projects	
Typical Eligible Items	• Airport Master Plans including preliminary feasibility and site selection • Airport Layout Plans • Project Plans and Specification • All Environmental Documents including individual components • Compatible Land Use Plans • Zoning when included as part of an eligible project such as an ALP update, land use plan, or compatibility study • Other plans that may be required by FAA prior to or as part of a federal assistance project such as the “Exhibit A” property map
Typical Ineligible Items	• Plans for industrial parks and other non-aviation uses • Noise analysis for non-public or non-aviation uses • Airport and airline marketing and/or promotional plans • Zoning as a stand-alone project • Stormwater Pollution Prevention Plans (SWPPP) • Spill Prevention, Control, and Countermeasure Plans (SPCC)
Notes	
Note: Project Plans and Specifications and Environmental Documentation must be for eligible and justified projects.	

Land Acquisition	
Typical Eligible Items	• Fee simple land for construction of eligible facilities • Fee simple land and permanent avigation easement for land required to control obstruction surfaces based on FAA AC 150/5300-13A150/5300-13B, Airport Design, current revision • Fee simple land and permanent easements for public access for public access roads and eligible utilities • Fee simple land and permanent avigation easements required for compatible land use programs • Fee simple land for off-airport visual and electronic air navigational aids • Surveying of airport property and establishment of permanent airport property markers • Professional services and fees for appraisals/surveying/negotiation, legal expenses, etc., associated with land acquisition • Relocation and moving expenses associated with the land acquisition
Typical Ineligible Items	• Land for ineligible facilities • Annual payments for leases and/or avigation easements for permanent facilities • Recurring land costs such as leases, annual performance payments, and interest payments, even though supporting otherwise eligible facilities

Notes

Note: Land values must be determined in accordance with the Federal Uniform Guidelines for the Acquisition of Real Property. This requires appraisals, negotiation based on the appraised just compensation, and approval of final offer if higher than just compensation. Copies of such appraisals are to be furnished to the NCDOT Aviation prior to payment of the grant.

Land proposed for funding must be approved prior to acquisition and must be shown on an updated Airport Property Map (i.e., FAA "Exhibit A") prior to approval.

The NCDOT Right of Way Unit approaches land acquisition as if federal reimbursement will be sought at some point. Even for projects where federal reimbursement is not currently contemplated, proceeding under this assumption allows for this possibility in the future with minimal adjustment required in order to bring the project into compliance should funding plans change.

Unless otherwise approved by the NCDOT Aviation, boundaries of land acquired with state funds will be limited to that necessary to comply with the airport design requirements of FAA AC 150/5300-13B for items such as RSA, Object Free Area (OFA), Obstacle Free Zone (OFZ), and RPZ. Land will not normally be acquired solely to satisfy FAR Part 77 surfaces unless an FAA airspace study finds that objects on such property are objectionable and need Sponsor action.

When acquired for land use compatibility, property may typically be authorized to the boundary of the 65 LDN noise control.

With approval, state funds may be available for the completion of purchase of uneconomic remnants beyond the boundaries listed above.

In the event the airport desires to dispose (sell, lease, swap) of any land as shown on the Exhibit "A," close coordination and approval must be obtained through NCDOT Aviation. Due to issues experienced with avigation easements, it is recommended that:

Land Acquisition

Notes Continued
• ***The RPZ should be purchased in fee simple.*** • ***Easements should allow for the complete removal of the entire obstruction object, not just topping.*** • ***The easement should be perpetual, remaining in force as long as the airport is operational.*** • ***Payments for easement rights must be on a one-time, lump-sum basis.*** • ***In the event that facilities are to be constructed on leased property, the lease must be perpetual, remaining in force as long as the airport is operational. (See ineligible items, this section).*** ***In the event the purchase price includes the value of timber, minerals, or other items of value, the state/federal share of the value of such items shall be refunded to the NCDOT Aviation at the time of their sale.***

Clearing and Grubbing	
Typical Eligible Items	• *All runway approach surfaces must be clear of obstacles per the runway's best (lowest minimums) Published Approach Surface or Visual Surface. Dimensional standards are included in FAA AC 150/5300-13B. Approach obstruction removal projects in accordance with FAA guidance are eligible for state funding for the first 3,000 feet from the runway end once every ten years.*
Typical Ineligible Items	• • *Obstruction removal beyond 3,000 feet is ineligible for state funds. Clearing and grubbing for the sole purpose of construction of an area or facility that is not eligible for state assistance.*
Notes	
Note: The airport sponsor is responsible for filing and obtaining any local, state, or federal permits required to construct the project. *Since state funds may pay for clearing a specific area only once* ***every ten years****, the airport sponsor should be prepared to implement a continual program of maintenance of the cleared area to prevent the regrowth of obstructions between the ten-year eligibility period.*	

Site Preparation and Drainage	
Typical Eligible Items	• *Grading, earthmoving, drainage, erosion controls, seeding, mulching, and turfing for eligible facilities* • *Off-airport preparation and drainage as necessary to implement an erosion control and sedimentation program for protection of downstream area* • Dredging for seaplane channels and anchorage
Typical Ineligible Items	• *Preparation and drainage solely for facilities not eligible for assistance* • *Maintenance of existing drainage systems (can qualify for state-only funding)*
Notes	
Note: The airport sponsor is responsible for filing the local and/or state Erosion Control and Sedimentation Plan, and obtaining any other required local, state, and federal permits. In the event work is performed beyond the boundaries of the airport, it is recommended that a permanent drainage easement be obtained from the affected property owners. *Sponsors are expected to consider long-term maintenance costs of fill slopes, drainage ditches, etc. and to implement reasonable programs to reduce such costs through innovative construction techniques.*	

Paving and Marking

Typical Eligible Items	• *Paving and marking of runways as justified by the airport use and configuration* • *Paving and marking of parallel and connecting taxiways serving the general public* • *Paving, marking, and installation of tie-down devices and aircraft parking aprons serving the general public* • *Paving and marking of general public access taxiways to hangar area* • *Marking of eligible pavements, including periodic remarking to meet current FAA standards, or where required for legibility for safety purposes* • *Grooving, porous friction courses, chip seals, and similar surface texturing* • *Application of seal coats, slurry seals, and other comprehensive seals* • *Nonrecurring comprehensive joint and crack sealing programs* • *Paving and marking of public access roads* • *Paving and marking of public, non-revenue automobile parking lots when such construction is incidental to another project for access roads, terminal, aprons, etc.* • *Paving and marking of service roads intended to provide for operation and maintenance of eligible airport facilities*
Typical Ineligible Items	• *Paving of automobile parking lots intended for revenue production except when such work is incidental to a larger eligible project* • *Paving of any taxiway or aircraft parking apron which is not available to the general public* •
Notes	
Note: All design criteria for runway, taxiway, and aircraft parking aprons shall conform to current FAA design and dimensional criteria. *The portion of automobile parking lots necessary for use as a public access road is eligible for participation. The NCDOT Aviation shall approve the extent of such use for participation. Parking lots intended for revenue production may be constructed only when such work is incidental to a larger, overall project eligible for participation.* *Except as required for a federal aid project, construction material specifications must conform to the appropriate specification from the North Carolina DOT-Division of Highways construction manual.*	

Lighting	
Typical Eligible Items	• *Runway Edge lighting* • *Runway in-pavement lights when justified by instrument procedures* • *Taxiway lighting* • *Taxiway centerline lighting and/or holding bar lighting* • *Apron edge lighting* • *Taxiway guidance signs* • *Wind direction indicators* • *Rotating beacons* • *Obstruction lighting* • *Airfield lighting vaults* • *Electrical distribution systems for eligible facilities* • *Lighting control equipment including radio controllers* • *Apron and terminal area security/flood lighting* • *Public access road security/flood lighting* • *Nonrecurring rehabilitation of eligible systems*
Typical Ineligible Items	• *Lighting for facilities not eligible for state assistance* • *Recurring operation, maintenance, and repair of lighting systems (can qualify for state-only funding)* • *Utility expenses*
Notes	
Note: If lighting systems are not lit continuously, sponsors are encouraged to provide radio control of visual NAVAIDS and lighting on a 24-hour basis so that they may be activated by the pilot when deemed necessary. REILS and approach lighting systems are normally activated by radio controller and should be available on a 24-hour basis.	

Electronic Air Navigational Aids	
Typical Eligible Items	• *Non-directional Radio Beacon (NDB) (approved on a case-by-case basis)* • *VHF Omni-Range (VOR) (approved on a case-by-case basis)* • *Distance Measuring Equipment (DME)* • *Localizer* • *Glide Slope* • *Fan Marker (approved on a case-by-case basis)* • *Microwave Landing System (MLS) (approved on a case-by-case basis)* • *UNICOM airport advisory radio station* • *AWOS and ASOS* • *Costs of spare parts packages and/or test equipment required by the FAA in order to initially commission eligible facilities* • *Initial installation of communications links, such as telephone lines, necessary to operate eligible facilities* • *Required remote monitoring devices determined necessary by the FAA in order to initially commission the facility* • *Evaluation and flight check necessary to commission eligible facilities* • *Nonrecurring rehabilitation of eligible facilities*
Typical Ineligible Items	• *Any facility that will not be available to the general public* • *Any facility that does not meet the acceptance and operation standards of the FAA and the FCC* • *Recurring operations, maintenance, spare or replacement parts, and repair of NAVAIDS, except AWOS* • *Utilities*
Notes	
*Note: Funding approval will be considered on a case-by-case basis. Funding approval will be made only when it is determined that currently available GPS technology will not provide landing weather minimums similar to those being provided by the ground-based N**AVAID**.* *Airport sponsors should recognize that electronic NAVAIDs require continuous supervision by an electronics technician approved by the FAA. The cost of this technician and replacement parts is not eligible for state assistance.* *The transmitters of all electronic NAVAIDs should be placed in a shelter, normally a small building, and should be provided with backup system to compensate for loss of electrical power.* *UNICOM advisory radios purchased with state assistance must remain under the ownership and control of the airport sponsor.*	

Terminal/Administration Buildings	
Typical Eligible Items	• *Airport terminal/administration buildings intended as the primary public terminal for the airport* • *Eligible portions of terminals are limited to public use, non-revenue producing space except for limited administrative spaces related to the operation and administration of the airport and which are under the control of the airport sponsor (limit on total amount of state funds)* • *Capital construction of utilities to serve the terminal/administration building (limit on total amount of state funds)* • *In the event the building is eligible for federal participation, eligibility of items for state participation shall be the same as items that have been determined by the FAA to be eligible for federal participation, even if federal funds have not been allocated for such items* • *Furniture and furnishing not to exceed $10,000 unless approved on a case-by-case basis by the NCDOT Aviation*
Typical Ineligible Items	• *Airport buildings that do not function as the public terminal administration building for the airport* • *Interior spaces not used or intended to be used for the general public, except for spaces under the control of the airport sponsor required for operation of the building or airport and incidental to the public use space in the building* • *Interior spaces which are used for or intended to be used for revenue producing purposes, except, the airport sponsor may collect a general fee for operation and maintenance of the public areas without such areas being determined to be revenue producing* • *Routine operations, maintenance, and repair costs* • *Capital costs of utilities in excess of that necessary to serve the public operations of the terminal/administration building* • *Operating costs of utilities*
Notes	
Note: The airport sponsor will be required to designate the use of space built with state assistance as part of the approval of the state assistance. No change in the general use of the spaces so designated may then be made without the concurrence of the state. In the event space constructed with state assistance is subsequently approved for conversion to non-public or revenue producing space, the airport sponsor shall refund the pro-rata state share of the construction costs of spaces so converted. *The state will participate in a terminal building up to square footage as set by the Airport Development Plan. This includes all utility tie-ins. State participation is based on current square footage rate for commercial building; participation percentage will be reevaluated annually by the NCDOT Aviation. Additional space will be at the sponsor's expense. Building may include general office space, a lobby area, and a pilot's lounge.* *Funding eligibility can be granted for first time new building construction and existing buildings that have exceeded a 15-year time period since the new construction/renovation. Buildings constructed within the 0 to 15-year time frame are not eligible for funding.* *Terminal access road and non-revenue public parking will have the same priority as the terminal building, but funding is not included in the terminal building cost.* *Each GA terminal constructed with state assistance will be required to include a conference room open to the general public, restrooms, a* ***Fixed-Base Operator*** *(FBO)/Operational area, and a flight planning area.*	

Safety and Security Equipment	
Typical Eligible Items	• *On commercial service airports, any equipment required by the FAA for continued compliance with the appropriate Federal Air Regulations* • *On Non-Primary airports the NCDOT Aviation will, on a case-by-case basis, consider participation of a skid-mounted type of fire suppression equipment and all necessary appurtenances and associated turn out gear. The airport must certify to the NCDOT Aviation that adequate annual training for the equipment uses and aviation firefighting techniques occur at a FAA-approved school/course.* • *Building to house safety equipment* • *Support equipment required or recommended by the FAA for the operation of safety and security programs to include such items as emergency communications radios, etc.* • *Terminal area and wildlife fencing sufficient to significantly reduce intrusions by persons and animals. Manually and electrically operated gates, where necessary, to provide service access to areas which are otherwise kept secured by fencing* • *Cameras for gate access and to provide for necessary security and operational needs along with all necessary appurtenances such as wireless communication systems, etc. approved by the NCDOT Aviation on a case-by-case basis* • *A rescue boat at airports with significant bodies of water adjacent to the runway system*
Typical Ineligible Items	• *Safety and security equipment in excess of the above standards* • *Routine operations, maintenance, and repair of safety and security equipment*
Notes	
Note: Airport sponsors are encouraged to develop jointly with appropriate local fire and emergency services agencies. Equipment appropriate to the expected airport role in such a plan is eligible for state assistance. Perimeter fencing type shall be appropriate for the area to be fenced and the airport type.	

Miscellaneous Items	
Typical Eligible Items	• *Snow removal equipment was justified by average annual snowfall* • *Airfield maintenance equipment (approved tractor and attachments) and an approved building to store equipment. The request for such equipment will be considered on a 10-year cycle.* • *Administrative expenses related to the administration of projects receiving state assistance* • *Force account work, providing the project constructed is eligible and approved for state assistance* • *Seaplane ramps and docks*
Typical Ineligible Items	• *Unless specifically stated as eligible in the preceding part, all other potential items are ineligible for state assistance, pending a determination by the state* • *Salaries, except where part of force account work or where eligible as part of administrative expenses* • *Routine operations, maintenance, and repair of any airport facilities and/or equipment* • *Contract maintenance* • *Utilities operating expenses* • *Except for eligible planning projects and eligible land acquisition, any work undertaken prior to the execution of a state Grant Agreement, unless written approval from the state was obtained prior to initiation of the project*
Notes	
Note: All local expenses for force account work must be documented by daily timesheets and/or diaries completed at the time of the work. In the event a local equipment charge has not been established by other federal or state overhead audit, force account use of sponsor-owned equipment shall be credited at the current "rental" rate for comparable equipment owned by the NCDOT. *Eligible administrative expenses are those allowed under the provision of the FAA.* *Where possible, the snow removal equipment and multipurpose maintenance vehicle shall be combined.* *Justification for snow removal equipment must include documentation of historical accumulations of three events requiring removal.*	

Appendix I. Project Priority Rating System

Throughout the year, airport project requests are submitted for funding in NCDOT's grant system, Enterprise Business Services. NCDOT Aviation prioritizes the projects utilizing a priority rating system or a point system methodology. All priority assignments shall be made by NCDOT staff. Project requests may be combined if the individual projects are linked by function, such as linking projects for the environmental assessment, design, and construction of a runway extension project.

Land acquisition shall always be a separate grant even if part of a combined project with the same priority number.

I.1. Numerical Priority Descriptions

NCDOT Aviation's project priority number system is based on the North Carolina Airport Development Plan (ADP) system objectives, developed as part of the 2015 North Carolina Airports System Plan (NCASP). System objectives are discussed in detail in **Appendix F. Airport Development Plan**.

Each submitted project will be assigned a priority rating and will consist of a 3- or 4-digit number. The priority number will be taken from the following list. This numbered list (with two zeros added) matches the Airport Development Categories listed in the ADP. The lower the number the higher the priority.

050. AIRPORT LAYOUT PLAN

55. New airport layout plan every 10 years or as needed

100. RUNWAY APPROACH

Runway Obstruction

105. Land Acquisition (easement and/or fee simple)
110. Obstruction Removal / Runway Threshold Displacement / Relocation / Marking / Lighting

200. RUNWAY SAFETY AREA (RSA)

Runway

205. Land Acquisition
210. Construct, Expand, or Repair Based on Approved RSA Determination

300. RUNWAY PROTECTION ZONES (control, fee simple ownership preferred)

Runway

305. Land Acquisition/Obstruction Removal / Easement

400. PAVEMENT CONDITION (Runway / Taxiway / Apron)

(Based on Pavement Management System)

Runway

405. Reconstruct / Rehabilitate (based on PCI)
Overlay (No strengthening involved) / Surface Treatment / Crack & Joint Sealing
410. Pavement Marking- Placement / Removal / Remark to meet current FAA standards
415. Pavement Shoulder / Airfield Drainage

Taxiway

420. Reconstruct / Rehabilitate (based on PCI)
Overlay (No strengthening involved) / Surface Treatment / Crack & Joint Sealing
425. Pavement Marking-Placement / Removal / Remark to meet current FAA standards
430. Pavement Shoulder / Airfield Drainage

Apron

435. Reconstruct / Rehabilitate (based on PCI)
Overlay (No strengthening involved) / Surface Treatment / Crack & Joint Sealing
440. Pavement Marking- Placement / Removal / Remark to meet current FAA standards
445. Pavement Shoulder / Airfield Drainage

450. Airfield Drainage/Stormwater Plans

455. Stormwater Plans
460. Airfield drainage reconstruct/re-plan

500. RUNWAY (Length and Width)

Runway Extension (specify length)

505. Benefit / Cost Analysis if required (reimbursable, if required by NCDOT)
510. Environmental Assessment (EA)
515. Land Acquisition
520. Permitting / Mitigation / Preliminary Engineering
525. Design
530. Road Infrastructure Relocation (Clearing / Grading / Drainage / Paving / Marking / Lighting Friction Surface Treating / Signage / NAVAID Relocation)
535. Construction
540. Taxiway Extension

Runway Widening

540. Widening

600. PAVEMENT STRENGTH (Runway / Taxiway / Apron)

Runway

605. Overlay / Crack and/or Joint Sealing / Crack Relief Layer / Marking Shoulder Drainage

Taxiway

610. Overlay / Crack and/or Joint Sealing / Crack Relief Layer / Marking Shoulder Drainage

Apron

615. Overlay / Crack and or/ Joint Sealing / Crack Relief Layer / Marking Shoulder Drainage

700. VISUAL NAVIGATIONAL AIDS

Airport Rotating Beacon

705. Land Acquisition/Installation/Upgrade “Rotating Beacon Installation”

Windsock with Segmented Circle (lighted if runway has lighting)

710. Site Preparation
715. Installation
720. Upgrade

PAPI

725. Relocation/Installation

730. Upgrade

Runway End Identifier Lights (REILs)

735. Relocation/Installation

800. RUNWAY EDGE LIGHTING

805. Install Runway Edge Lighting System / Emergency Replacement

810. Install Electrical Vault

815. Install Pilot Control Lighting

820. Replace Runway Edge Lighting

825. Relocate Runway Edge Lighting

900. WEATHER REPORTING CAPABILITY

905. Land Acquisition

910. Site Development

915. AWOS Installation

1000. STANDARD INSTRUMENT APPROACH PROCEDURES (SIAP)

1005. Feasibility Study

1010. Land Acquisition

1015. Clearing and Field Survey

1020. Site Development

1025. ILS Localizer / Glideslope

1030. Distance Measuring Equipment

1035. Non-directional Beacon

1040. Install Approach Lighting

1100. TAXIWAY REQUIREMENTS (Construction [Parallel, Connector, and Turnarounds])

Construction (Parallel, Connector and Turnarounds)

1105. Environmental Assessment (EA)

1110. Design

1115. Land Acquisition

1120. Permitting/mitigation / Preliminary Engineering

1125. Construction

1200. AIRCRAFT APRON / HELIPAD (Expansion / New Construction)

1205. Environmental Assessment (EA)

1210. Design

1215. Land Acquisition

1220. Permitting/Mitigation / Preliminary Engineering

1225. Construction

1230. Security Lighting

1235. Security Fencing
1240. Corporate and T-hanger Taxiways

1300. GENERAL AVIATION TERMINAL BUILDING

1305. Construct New Terminal Building
1310. Upgrade Existing Terminal Building
1315. Construct Addition to Existing Building
1320. Construct Terminal Access Road
1325. Construct Non-Revenue Terminal Public Parking Area
1330. Terminal building: water/sewer/utilities construction
1335. Land

1400. TAXIWAY AND APRON EDGE LIGHTING

1405. Install Taxiway Edge Lighting, Including Vault
1410. Install Apron Edge Lighting
1415. Relocate Taxiway Edge Lighting
1420. Relocate Apron Edge Lighting
1425. Rehabilitate / Replace Taxiway Edge Lighting, Could Include Vault
1430. Rehabilitate / Replace Apron Edge Lighting

1500. AIRFIELD SIGNAGE

1505. Install Airfield Signage
1510. Install Lighted Airfield Signage
1515. Rehabilitate / Replace Airfield Signage

1600. GROUND COMMUNICATION

1605. Installation of Ground Communication System (GCO /RCO)
1610. Rehabilitate / Replace Ground Communication System (GCO /RCO)

1700. APPROACH LIGHTING

1705. Install MALS / MALSF / MALSR
1710. Rehabilitate / Replace Any of the Above
1715. Install ODALS
1720. Land

1800. AIRCRAFT RESCUE & FIRE FIGHTING EQUIPMENT (ARFF)

1805. Acquire Skid Mounted Fire Suppression Equipment / Large Wheeled Ramp Fire Extinguishers
1810. Acquire Two Complete Personnel Fire Protection Turn Out Gear
1815. Rehabilitate / Replace Any of the Above

1900. HANGARS

1905. Land
1910. Access road
1915. Construction

2000. AIRFIELD MAINTENANCE EQUIPMENT & STORAGE BUILDING

2005. Acquire / Replace Tractor and Approved Attachments
2010. Acquire Equipment Shelter (No Utilities Provided)

2100. PERIMETER FENCING

2105. Construction/Install Wildlife/Perimeter Fencing to Prevent Hazardous Conditions

2200. FUEL FACILITIES

2205. Install fuel facility

2300. OTHERS

2305. Not defined in the system plan objectives.

I.2. Priority Adjustment

Infrequently, even with a detailed priority system in place, there will be project proposals that are nonconforming, have special conditions, or just do not fit the system well. In this event, the NCDOT Aviation staff, on a case-by-case basis, may adjust the priority. This adjustment will consider additional factors, including, but not limited to, the items below. The order of the items does not indicate priority.

- Costs – Does the project fit with available funds?
- Geography – What impacts will geography have on the feasibility of the project?
- Public Safety – Is the project needed to protect the people in the vicinity of the airport?
- Airspace Constraints – Is the project feasible based on the available airspace?
- Local Support – Is there sufficient interest by local government? Historically, how well has the local government/sponsors supported the airport and/or its projects?
- Transportation, Industry, and Regional Impacts – Is there a special need by local or regional industry? Is there available adequate transportation to support the project?
- Airport Infrastructure – Do the existing airport facilities complement the project?
- Based Aircraft – Does the project have merit based on the number of aircraft based at the airport?
- Aircraft Operations – Does the airport have merit based on the number of aircraft operations at the airport?

I.3. Emergency Policy

Any emergency requests will be managed on a case-by-case basis by NCDOT Aviation staff.

I.3.1. Additional Resources and Links for Airports

This appendix provides the resources or links that are most commonly used, or may be most helpful to, airport sponsors. There are other resources linked throughout this Program Guidance Handbook as well that provide additional detail or information on important topics.

The NCDOT Connect Website is a one-stop shop for a number of important resources, checklists, and forms. The NCDOT website contains

- State and Federal grant assurances
- Land acquisition checklist
- Project development checklist
- Grant administration forms
- DBE/MBE/WBE participation forms and program information
- EBS ELog-In

Other important NCDOT Aviation Links include:

- North Carolina Department of Transportation Division of Aviation Homepage
- Employee Directory
- North Carolina Airport Guide
- Airport Project Managers Assignment Map

The following links offer additional key state and federal guidance:

- Federal Aviation Association (FAA): Charged by the United States Congress with regulating all aviation activity.
- United States Code (U.S.C.), Title 49: The enabling legislation that relates to transportation in the U.S., including aviation and airports.
- Airport Improvement Program (AIP): The FAA program that pertains to the funding of airport projects.
- Order 5100.38, Airport Improvement Program Handbook: Provides guidance to FAA staff and sets forth policy and procedures for administering the AIP.
- Advisory Circular 150/5100-14, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects: Establishes the official FAA standards for sponsor procurement of professional services.
- Advisory Circular 150/5300-13B, Change 1: Airport Design: Contains the standards and recommendations for airport layout and design.
- North Carolina General Statutes (GS) Chapter 63, Aeronautics (NC GS 63): State statute pertaining to aviation.
- Strategic Transportation Investments (STI): The funding formula for NCDOT's capital expenditures.
- North Carolina Department of Environment Quality (NCDEQ): Charged with maintaining environmental permits, licensing, and requirements, including those that impact airports such as the storm water management program.

There are a number of professional aviation organizations that airport sponsors may want to learn more about, or get involved in. These organizations provide opportunities to connect with other aviation professionals and stakeholders and offer a wide range of resources that may be beneficial to airport sponsors. Links to these aviation organizations are provided here:

- North Carolina Airports Association (NCAA): North Carolina membership organization for airport managers and aviation professionals that promotes aviation throughout the state and supports airport managers.
- National Business Aviation Association (NBAA): Trade organization representing companies that have flight departments or that use aircraft in support of their core business.
- Aircraft Owners and Pilots Association (AOPA): Largest civil aviation organization in the world, representing the broad spectrum of GA/Non-Primary airports.
- General Aviation Manufacturers Association (GAMA): Trade organization representing most of the general aviation aircraft and original equipment manufacturers. GAMA's online newsroom includes useful information on aircraft sales and economic impact.
- Experimental Aircraft Association (EAA): Membership organization representing those who build and fly aircraft in the experimental category.

The North Carolina Department of Transportation Division of Aviation promotes the economic well-being of North Carolina by developing a safe and robust air transportation system.

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