

# North Carolina Airports PROGRAM GUIDANCE HANDBOOK

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# NORTH CAROLINA AIRPORT DEVELOPMENT PROGRAMS AND POLICIES (NCADPP) GUIDE

## Chapter 1: Introduction

Airports are vital to North Carolina (“State”), fueling the economy and providing critical links to the State and national transportation system. North Carolina boasts 72 publicly-owned airports and over 300 privately-owned airports. More than 47 million passengers fly to and from North Carolina each year using one of the State’s 10 commercial service airports. More than 400,000 tons of cargo is transported by air in North Carolina each year. There are more than 7,000 registered aircraft based in the State and 15,000 licensed pilots.

The North Carolina Department of Transportation’s (NCDOT’s) Division of Aviation (DoA) provides financial and technical assistance to eligible airport sponsors<sup>1</sup> for the planning, development, promotion, construction, and operation of public use airports. The DoA administers both State and federal funding for airport capital improvement projects pursuant to the North Carolina General Statutes (NC GS) Chapter 63. Other duties include airport maintenance, airport safety inspections, maintaining a statewide airport system plan, promoting aviation education, and providing airfield safety equipment. Chapter 63, Article 7 of the NC GS contains the authority for the NCDOT to carry out aviation programs and provides specific guidelines concerning DoA administration. Chapter 63 also establishes State law related to Aircraft and Airports and outlines eligibility for State and federal aviation grants. **Appendix A: Statutory and Regulatory Guidance** of this guide provides more detail regarding NC GS 63 as well as other State and federal statutory and legal guidance that must be adhered to by airport sponsors.

The DoA has developed this guide to provide airport sponsors and other interested parties with an understanding of the DoA’s programs, funding process, and requirements.

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<sup>1</sup> 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 DoA 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 identified in this chapter serve a role and has responsibilities that support both individual airports in North Carolina and the overarching statewide air transportation system.

### I. North Carolina DOT

It is the responsibility of the NCDOT to promote the development of airports and aviation in the State. NCDOT is authorized per Article 7 of the 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.”*

The NCDOT develops goals, policies, and standards to guide funding programs most efficiently. The NCDOT is also authorized to operate State-owned airports and accept Federal Aviation Administration (FAA) federal grant money through the FAA State Block Grant Program.

The DOT Board of Transportation advises the Secretary of the Department in the issuance of loans and grants through the State Transportation Improvement Program (STIP) and upon any matter relating to airports to which the Secretary may refer. This includes funding to airport sponsors for the purposes of planning, acquiring, constructing, or improving public airport facilities. The Secretary then reports the activities of the Board to the Governor.

NCDOT also has the authority to provide roads for the connection of airports in the State with the public highway system, and to mark the highways and erect signals along public roads for the guidance and protection of aircraft.

### II. North Carolina DOT Division of Aviation (DoA)

DoA is a transit division of NCDOT that advocates for and delivers services that promote and enhance a healthy and safe air transportation system. To achieve this goal, the DoA's responsibilities include the following:

- Administers funding programs including the [Federal Aviation Administration's \(FAA\) Block Grant Program](#) and the State Airport Aid Program
- Administers applicable provisions of the North Carolina General Statutes

- Performs safety inspections of all general aviation public use airports
- Supports the statewide Aviation Weather Observation Station (AWOS) program
- Supports airport wildlife hazard management
- Plans for the development of the State aviation system
- Provides maintenance activities and windsocks for all public use airports
- Promotes aviation through communications, outreach, and educational activities
- Develops special studies and initiatives

In order to support airports and their development, DoA has divided the airports into one of four geographic regions - Northeast, Northwest, Southeast, and Southwest. DoA has assigned an [Airport Project Manager](#) to each region to provide technical assistance and expertise with airport planning, engineering, design, and construction. Airport Project Managers are also responsible for the administration and management of the State's and FAA's grant programs for airports within their respective geographic region.

### III. FAA

The mission of the FAA is to provide a safe and efficient national airport system. The FAA provides financial assistance for the planning, design, and construction of airports through its Airport Improvement Program (AIP). The FAA also sets design and operational standards for airports through Advisory Circulars (ACs) and other publications. The FAA holds airports accountable to federal grant obligations and enforces these obligations through the [Airport Compliance Program](#).

### IV. Airport Sponsors

All airport sponsors in North Carolina have obligations and responsibilities to ensure the safe operation of their airports. All sponsors are responsible for the daily maintenance of their airports and supervision of operational activities as well as budgeting and financial dealings. Airports that are included in the FAA's [National Plan of Integrated Airport Systems \(NPIAS\)](#) are eligible for federal funding and must adhere to additional FAA and State standards and obligations. All 72 publicly-owned and operated airports in North Carolina are included in the NPIAS. There are more than 300 privately-owned airports in the State that are not included in the NPIAS.

#### **NPIAS Airports**

According to NCDOT DoA, the responsibilities of the 72 publicly-owned and operated airports in North Carolina included in the NPIAS include (but are not limited to) the following:

- **Compliance with North Carolina General Statutes (NC GS) Chapter 63.** Article 1 of NC GS 63 authorizes cities, towns, and counties to establish public airports while Article 6 defines the powers of municipalities in operating the airport.

- **Compliance with [State](#) and [Federal Grant Assurances](#).** Both federal and State aid programs carry with them certain obligations on the part of the local government receiving funds. Airport sponsors are obligated to both FAA and NCDOT for past grants.
- **Up-to-date Airport Layout Plan (ALP).** Sponsors are responsible for the long-term development planning of the airport. DoA recommends airports to update their ALPs at least every 10 years or as needed. NPIAS airports must closely follow FAA design standards in planning the development of their airport. These are included in FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*.
- **Participation in the Five-Year Airport Transportation Improvement Program (TIP).** The Airport TIP identifies and prioritizes projects for all airports in the system. Submission of airport projects to the TIP is needed to secure federal, state, and local project funding. These are usually submitted to DoA via an online tool called “Partner Connect” prior to the beginning of each fiscal year. Additional information on the funding programs is provided later in this guide in *Chapter 5: Funding for Airport Improvement Projects* and the TIP funding process is outlined in *Chapter 6: The TIP Process for Airport Sponsors*.
- **Obstruction Clearance.** Sponsors are responsible for keeping their runway approaches clear of obstructions to the appropriate FAA standards found in Section 3.3.2.c of FAA Order 8260.3B, *United States Standard for Terminal Instrument Procedures (TERPS)*.
- **Federal Aviation Regulations (FAR) Part 77 Height Restrictions and Land Use Zoning.** Airport sponsors must 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. Article 4 of NC GS 63 - Model Airport Zoning Act - provides height and land use zoning guidance to airports
- **Airport Minimum Operating Standards and Rules and Regulations.** In order to promote safe airport and aircraft operations and sound business practices, DoA requires all airports to publish current Minimum Operating Standards and Rules and Regulations that have been adopted by local ordinance.
- **Adherence to the DoA’s Airport Development Plan (ADP).** DoA has established airport system objectives regarding airport development. Sponsors should understand their role in the state airport system, the DoA’s project prioritization system, and which airport development projects are eligible and ineligible for funding.
- **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**.



**Public Use/Non-NPIAS Airports**

Non-NPIAS airports do not receive federal or state funding and, therefore, they 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 programs including DoA's Turf Runway Marking Program, Windsock Program, Safety and Education Program, and Wildlife Hazard Training. Privately owned public-use airports also receive airport safety inspections and can utilize the height zoning model found in NC GS 63.

**V. Other State Agencies**

There are many additional State agencies that play an important role in the development of airports. They include, but are not limited to:

- **NCDOT Division of Highways:** Airport sponsors often must work with the Division of Highways on right-of-way access and changes to roadways in conjunction with airport development projects. The Division of Highways works with DoA to reviews all appraisals for airport land acquisitions.
- **North Carolina Department of Commerce:** The North Carolina Department of Commerce, in conjunction with the Economic Development Partnership of North Carolina, 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.
- **North Carolina Department of Administration, State Environmental Review Clearinghouse:** The [North Carolina Environmental Policy Act of 1971 \(G.S. 113A 1-13\)](#) sets forth the SEPA compliance process and is administered by the Department of Administration. Under the law, meeting the requirements of the National Environmental Policy Act meets the requirement of SEPA. The rules ([01 NCAC 25](#)) specify that the federal (NEPA) document must be reviewed through the State Clearinghouse process. Sponsors must coordinate all Environmental Assessments (EAs) and Environmental Impact Statements (EISs), with the Clearinghouse and format documents according to [Clearinghouse specifications](#). The Clearinghouse circulates the environmental documents to the following state agencies:
  - Department of Environment and Natural Resources (DENR) Divisions
    - Regional Offices (Air Quality, Land Resources, Water Quality, & Groundwater);
    - Environmental Health;
    - Parks and Recreation;
    - Natural Heritage Program;
    - Wildlife Fisheries (DWF) (depending on county);
    - Coastal Management (DCM) (depending on county).
  - Forest Service;

- Wildlife Resources Commission (WRC);
- Department of Agriculture;
- Department of Cultural Resources;
- State Historic Preservation Office (HPO);
- Department of Public Safety;
  - Division of Emergency Management – National Flood Insurance Program (CC&PS, DEM – NFIP);
- NCDOT's Transportation Planning Branch (TPB); and
- Appropriate Councils of Government (COG).

The Department of Administration recommends to the state project agency whether any further action is needed to comply with SEPA. If no further action is needed, the Department of Administration will notify the project agency that requirements of SEPA have been met.

- **North Carolina Department of Administration, Division of Purchase and Contract:** The NC Department of Administration's Division of Purchase and Contract Office provides guidance for contracting and rules for procurement for vendor services and goods in the state.

## VI. Other Federal Agencies

In addition to the FAA, there are other federal resources that are integral in the development and operation of airports. They include, but are not limited to:

- **Transportation Security Administration (TSA):** TSA provides passenger and baggage security at commercial service 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 general aviation facilities.
- **Environmental Protection Agency (EPA):** The EPA requires airports to follow several rules and guidelines while operating and developing airports in order to protect the environment. These include:
  - 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 (CATEX), Environmental Assessments (EAs) and Environmental Impact Statements (EISs) assess the likelihood of impacts to the natural or human environment from alternative courses of action. These documents are required by the FAA 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 general public.
- **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 commercial service airports and working with DoA to assess and address wildlife hazards at the state's general aviation airports.
- **U.S. Army Corps of Engineers:** The Wilmington District administers the Corps of Engineers regulatory permit program for streams and wetlands in North Carolina. When airport projects involve wetlands and other aquatic resources, airports must submit an application to the Corps to permit changes.
- **U.S. National Park Service:** The U.S. National Park Service owns and operates three of the public-use airports in North Carolina along the eastern coast, including Billy Mitchell, Ocracoke Island, and First Flight Airport.

## VII. Metropolitan and Rural Planning Organizations

There are [19 Metropolitan Planning Organizations \(MPOs\)](#) and [20 Rural Planning Organizations \(RPOs\)](#) in North Carolina. These organizations were developed, in part, to support the statewide coordination and planning of transportation projects. The [Strategic Transportation Investments Bill \(STI\)](#), which was signed into law in 2013, is the new funding model for State transportation projects that requires all transportation modes to compete for capital expenditures funded from the Highway Trust Fund. STI requires local input from MPOs and RPOs in scoring transportation projects, including aviation projects. MPOs/RPOs should recognize the ALP or Airport Master Plan and have a clear understanding of the aviation development needs of the airports within their planning region. This includes ongoing education and conversations between airport sponsors and the MPO/RPO representatives so they have better knowledge of the importance of the continued development and maintenance of the airports in their region.

## VIII. NCDOT Division Engineers

North Carolina has [14 Transportation Divisions](#). 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 under STI law, as discussed above. 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.

## Chapter 3: DoA Airport Programs

### I. State Airport Aid

State Airport Aid is the State funding program of the North Carolina Department of Transportation which is authorized under NC GS Chapter 63. The State Airport Aid Program funds both Safety/Regulatory/Operations projects and capital development projects. Regulatory projects include projects such as improving the condition of various pavements and the replacement of equipment such as lights or navigational aids. Capital development projects expand the airport for the purpose of increasing capacity and/or alleviating congestion. Airport capital development projects are processed and approved through the statewide [Strategic Transportation Investments \(STI\) Program](#). More information on state funding and the funding process can be found later in *Chapter 5: Funding for Airport Improvement Projects*.

### II. State Block Grant Program

Since 1990, North Carolina is one of 10 states that participate in the FAA's State Block Grant Program. Under this program the State assumes responsibility for administering [Airport Improvement Program \(AIP\)](#) grants at airports classified as non-primary commercial service, reliever, and general aviation airports. DoA is responsible for determining which airports will receive federal funds for various eligible projects. The application, approval, and grant management for Block Grants is identical to that of State Airport Aid. The State must adhere to both the FAA/DoA Block Grant Memorandum of Agreement and the FAA's [Assurances for the Aviation Block Grant Program](#).

### III. Airport Safety Preservation Program

NCDOT DoA created the Airport Safety Preservation Program in 1992 to assist local governments in preserving and maintaining their airfield facilities. This assistance is carried out 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, etc. This work is carried out and funded directly by DoA. In order to participate in this program, each airport is required to have on file a current signed and sealed "Division of Aviation Airport Safety/Maintenance Program Agreement" before any work can proceed. This document indemnifies both the NCDOT and the contractors from liability. Airports should contact their [Airport Project Manager](#) with any project inquiry.

### IV. Wildlife Hazard Management Program

DoA 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. In order to implement the program, DoA partners with the USDA APHIS Wildlife Services. As part of the program, USDA APHIS Wildlife Services conducts wildlife hazard site visits at general aviation airports and Wildlife Hazard Assessments at North Carolina's 15 airports that are 14 CFR Part 139 certified airports. In addition, DoA and USDA APHIS Wildlife Services provide wildlife hazard training to all airport personnel and others throughout North Carolina and respond to various requests for direct hazard management or technical assistance.

More information regarding this program can be found in **Appendix C: North Carolina Division of Aviation's Wildlife Hazard Management Program**.

## **V. AWOS Program**

DoA 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 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, DoA has a policy in place to replace AWOS units based upon a verified need and/or install new AWOS units based upon a qualified and verified need established by an airport at no cost to the airport. All of these activities are subject to funding availability. DoA's priority will be: funding maintenance operations, replacement of existing units, and installation of new units, respectively. The DoA will provide at 100% state funding: 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 landscaping, and other minor costs. The full DoA AWOS policy can be found in **Appendix D: NCDoA AWOS Policy**.

## VI. FAA 5010 Safety Inspections & Reporting

The FAA's Airport Safety Data Program is the primary means for the collection, maintenance, and dissemination of information related to the State's general aviation airports. DoA administers the [FAA 5010 Safety Data Program](#) for the State's public-use airports, which includes inspections and reporting. DoA 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, DoA 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.

## VII. NextGen Air Transportation (NGAT) Program

NCDOT DoA has partnered with the Institute for Transportation Research and Education (ITRE) at North Carolina State University to develop the NextGen Air Transportation (NGAT) Program. NGAT's mission is:

*"to discover, evaluate, implement, and disseminate advanced air transportation technologies at the regional, national, and international level to improve the capacity, safety, and environment surrounding air transportation."*

NGAT is at the forefront of Unmanned Aerial Systems (UAS) research and testing. NCDOT has provided labor and testing support to the NGAT Program to help meet UAS user demand in North Carolina. More information on the program can be found at the [NGAT website](#).

## VIII. Safety and Education Programs

The NCDOT DoA, Safety and Education Section, is dedicated to keeping North Carolina "First in Flight" and "First in Safety." The Safety and Education Section works to create and promote safety and educational events throughout the year for general aviation pilots, Aircraft Maintenance Technicians (AMTs), youth, and the general public. Content



for pilot and aircraft maintenance programs is based on information received from accident data via the FAA, National Transportation Safety Board (NTSB), and the Aircraft Owners and Pilots Associations (AOPA) "Nall Report." Customer demand and trends also play an important role in the Section's activities.

Youth and general public aviation education programs consist of NCDOT aviation facility tours, [Aviation Career Education \(ACE\) Camps](#), career day activities, internships and distribution of educational materials at airshows, fly-ins, and other aviation-focused events.

## **IX. Windsock Program**

In the interest of reducing weather-related landing accidents caused by wind direction and magnitude, DoA 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 DoA. The requestor should be an owner or the manager of the airport requesting the windsock.

The following are eligible to receive a windsock at no cost. These airports and heliports must fill out the [free windsock request form](#) in order to receive a windsock.

- Publicly-owned airport or heliport
- Privately-owned, public-use airport or heliport listed in the current FAA Airport/Facility Directory
- Designated Emergency Medical Service (EMS) landing site (i.e. hospital heliport)

Privately-owned and private-use airports and heliports in North Carolina may purchase a windsock at cost, plus shipping and handling. The various sizes and their cost are listed in the [windsock purchase form](#). A check or money order payable to NCDOT - Division of Aviation should accompany the form when submitted. Requests for windsocks should be made on the designated form and mailed or faxed to DoA.

## **X. Turf Runway Marking Program**

DoA 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. Private-use airports can purchase the cones for \$20.00 each. DoA provides additional guidance on the placement and spacing of the cones.

## **XI. State Airport Guide and Aeronautical Charts**



DoA publishes the [North Carolina Airport Guide and NC Aeronautical Charts](#) every two years. 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, by filling out the [request form](#) online.

## Chapter 4: Airport Development Plan

### I. Introduction

In 2004, NCDOT DoA 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 general aviation airports that are eligible for federal and State programs. The purpose of the GAADP was to identify the deficiencies that North Carolina's general aviation airports needed to address and provide a systematic and strategic approach for the DoA to address those needs. The GAADP was updated and revised in 2006 and has served as guide for general aviation 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.

In July 2013, Governor McCrory signed into law the [Strategic Transportation Investments \(STI\) Bill](#). The focus of STI is on capital projects for all modes of transportation, including aviation. It provides new categories of funding eligibility for airports (Statewide Airport, Regional Impacts, and Division Needs), as well as creates new funding formulas for each mode of transportation. 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 commercial service 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 general aviation 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.

## II. State Airport System and Airport Groupings

DoA 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 general aviation airports that were previously included in the model, the need for inclusion of the commercial service 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 E: 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.

## III. 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 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. 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 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.

#### **IV. ADP Objectives**

**Table 2** summarizes the ADP system objectives by airport grouping. The ADP category definitions, descriptions, and eligible projects can be found in **Appendix F: Funding Eligibility by Project**.

**Table 2: ADP System Objectives**

Development Category		System Objectives			
		Commercial Service	General Aviation	General Aviation	General Aviation
		Yellow	Red	Blue	Green
050	Airport Layout Plan (ALP)	Every 10years or as needed	Every 10years or as needed	Every 10years or as needed	Every 10years 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 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 Wind Sock, PAPI-4	Rotating Beacon, Lighted Wind Sock,PAPI-4	Rotating Beacon, Lighted Wind Sock,PAPI-4, REILs	Rotating Beacon, Lighted Wind Sock,PAPI-2, REILs
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

**Table 2: ADP System Objectives – Cont.**

Development Category		System Objectives			
		Commercial Service	General Aviation	General Aviation	General Aviation
		Yellow	Red	Blue	Green
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 Bldg	Not eligible	Approved Tractor/ Building	Approved Tractor/ Building	Approved Tractor/ Building
2100	Perimeter Fencing	Not eligible	Perimeter	Perimeter	Perimeter
2200	Fuel Facilities	Not eligible	Based on Demand	Based on Demand	Based on Demand

Source: DoA and NCASP Team, 2014.

## V. Project Selection Criteria/Priority Rating

DoA 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 commercial service 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, DoA recognizes that there will be instances where proposed projects do not fall within the framework of their priority rating system. When these instances occur, DoA 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 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 DoA's Priority Rating System refer to **Appendix G: Project Priority Rating System**.

## Chapter 5: Funding for Airport Improvement Projects

Publicly-owned airports in North Carolina have several funding sources available to improve and maintain their airports. 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 as described later in this chapter. 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.

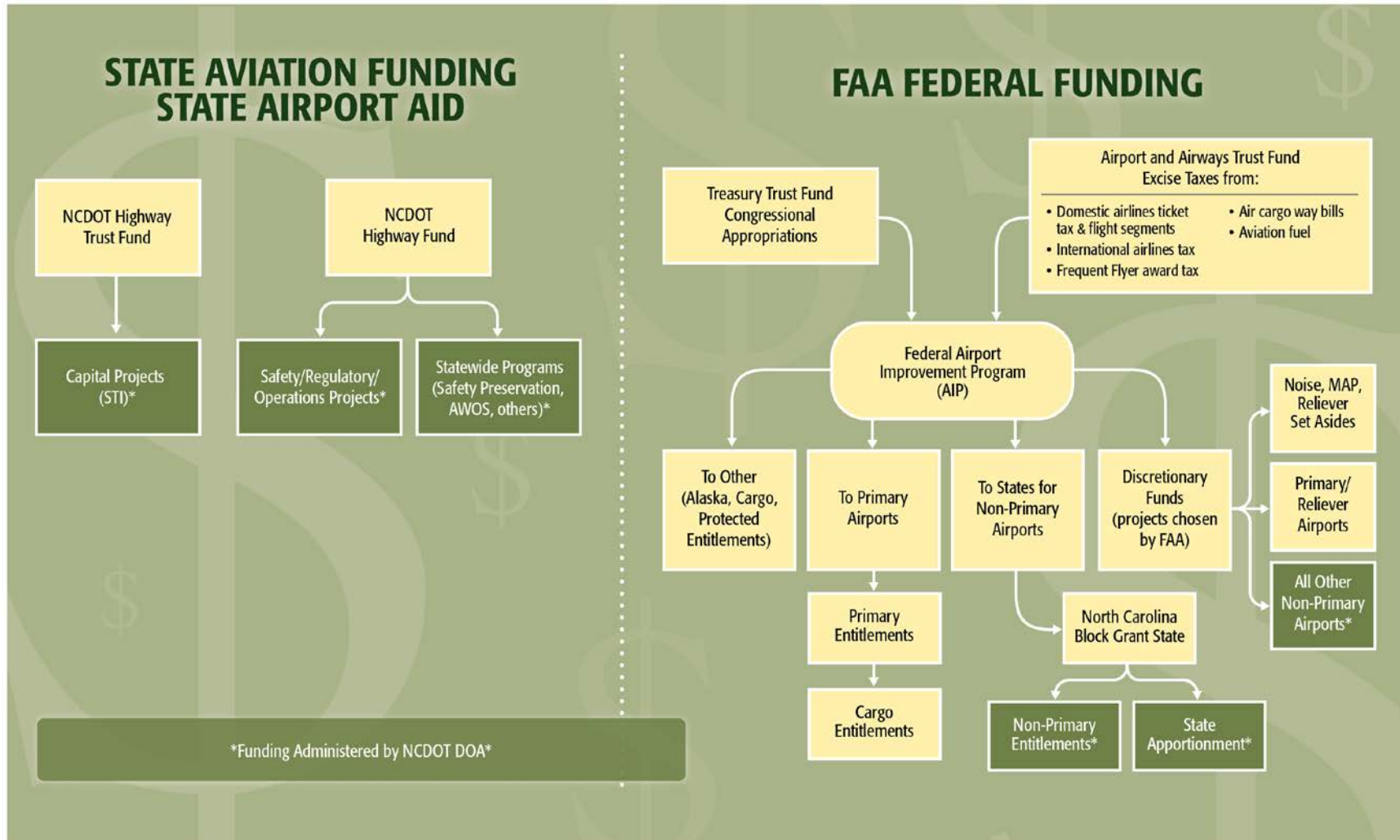
As stated in *Chapter Two: Roles and Responsibilities*, it is an airport sponsor's responsibility to participate in the NCDOT DoA's Transportation Improvement Program (TIP) in order to receive state and federal funding. The TIP identifies and prioritizes projects for all airports in the system. All requests for project funding must be submitted to NCDOT DoA each fiscal year through NC Partner Connect. More information on the funding process can be found in *Chapter Six: Funding Process for Airport Sponsors* of this document.

NCDOT DoA, as part of the federal Block Grant Program, is responsible for administering not only State funds, but also federal funds. Both of these funding sources have separate requirements regarding the types of projects that are eligible for funding and different processes required to secure funding. This adds a level of complexity regarding which projects are eligible for funding by which funding source. Often when a project is submitted to DoA for funding consideration, it can be eligible for State funding and/or federal funding. Once a project is submitted in Partner Connect, NCDOT's grant system, DoA vets the submission and determines which funding source the project should be assigned based on eligibility requirements. Once all airport projects are submitted for funding, DoA prioritizes the projects utilizing a point system methodology. In addition, the FAA's [Airports Capital Improvement Plan \(ACIP\) national priority system](#) is also utilized to assist in prioritization. More information on the DoA's project prioritization processes can be found in **Appendix G: Priority Rating System**.

The following sections discuss the State and federal sources of funding for airport projects, as well as local and other non-traditional funding sources. **Figure 1** provides an overview of State and federal funding that is available and its sources.



Figure 1: State and Federal Funding



## I. State Funding Assistance

Figure 1 illustrates the State sources for North Carolina's airports. Like federal funding, only NPIAS airports are eligible for State funding assistance. State funding is used to fund three overarching categories of types of projects:

- 1.) **Safety/Regulatory/Operations Projects** - Airport projects that are needed or required to meet the Airport Development Plan (ADP) system objectives for that airport's classification.
- 2.) **Capital Improvement Projects** - Airport projects that expand the airport for the purpose of increasing capacity and/or alleviate congestion. The project must exceed the system objectives or regulatory requirements for the airport's infrastructure as listed in the Airport Development Plan (ADP).
- 3.) **Statewide Programs** - fund a specific type of project that can include, but is not limited to, weather reporting, wildlife services, and small maintenance projects.

Each of these three State funding categories are discussed in more detail in the following subsections.

### **Safety/Regulatory/Operations Project Funding**

Safety/Regulatory/Operations (SRO) projects are funded through the NCDOT Highway Fund. This funding source is different from the NC Highway Trust Fund which funds capital expenditures. The projects that are eligible for Safety/Regulatory/Operations funding are needed or required to meet the NC Airport Development Plan (ADP) system objectives for that airport's classification. Projects can be minor modifications to existing airfield geometric pavement edges. Examples of projects that qualify for Safety/Regulatory/Operations funding include:

- Land Acquisition to meet approach requirements (Clearing, RPZ or RSA)
- Pavement expansions to bring airport up to System Plan Objectives
- Airfield maintenance buildings
- Navigation and airfield lighting & signage
- Pavement overlay and rehabilitation
- Fencing

All projects must be submitted by the airports via NC Partner Connect. DoA then classifies them as eligible for State Safety/Regulatory/Operations funding and prioritizes the projects based on the criteria outlined in **Appendix G: Priority Rating System**.

### **Capital Improvement Project Funding/State Transportation Investments (STI)**

A new State funding process for NCDOT referred to as [STI \(Strategic Transportation Investments\)](#), was signed into law in June 2013 ([House Bill 817](#)). As discussed previously in this document, STI provides a new funding formula for NCDOT capital expenditures. This includes funding projects for all modes of transportation, including highway, rail, airports, public transportation, bike/pedestrian, and ferry. All non-highway modes receive a combined 4% of the annual Highway Trust Fund; whereas, 90% of the

Highway Trust Fund is assigned to highway projects and the remaining 6% is open to all modes, including Highways, based on prioritization.

Airport projects that are eligible for STI funds include projects that expand the airport for the purpose of increasing capacity and/or alleviate congestion. The project must exceed the system objectives or regulatory requirements for the airport's infrastructure as listed in the Airport Development Plan (ADP). Several examples of these types of projects (and associated projects such as marking, lighting, etc.) include, but are not limited to, the following:

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

Airport projects that are submitted for STI funding must undergo a detailed scoring process to compete for funds with all other transportation modes. STI has classified airports into three separate funding categories, based on their size and contribution to the system. Definitions and eligibility are presented in **Figure 2**.

**Figure 2: STI Airport Classification**

	PROJECT FOCUS	AIRPORT TYPE	DEFINITION	FUNDING AVAILABLE
<b>STATEWIDE MOBILITY (4 airports)</b>	Address Significant Congestion	Commercial Service Airports included in NPIAS	International Service or 375,000 annual enplanements (CLT, RDU, GSO, ILM, AVL)	\$500,000 per airport per project per year
<b>REGIONAL IMPACTS (6 airports)</b>	Improve Connectivity within Regions	Commercial Service Airports included in NPIAS	Not included in "Statewide Mobility" (OAJ, EWN, JQF, PGV, FAY)	\$300,000 per airport per project per year
<b>DIVISION NEEDS (62 airports)</b>	Address Local Needs	General Aviation Airports included in NPIAS	Not included under "Statewide Mobility" or "Regional Impacts"	Statewide total not to exceed \$18,500,000 per year

Source: NCDOT

Note: CLT=Charlotte Douglas International Airport, RDU=Raleigh Durham International Airport, GSO=Piedmont Triad International Airport, ILM=Wilmington International Airport, AVL=Asheville Regional Airport, OAJ=Albert J. Ellis Airport, Coastal Carolina Airport, JQF=Concord Regional Airport, PGV=Pitt-Greenville Airport, FAY=Fayetteville Regional Airport

STI funding went into effect on July 1, 2015. Regardless of mode, all projects submitted to STI are scored on a 0-100 point scale. Each mode utilizes a separate and specific prioritization process that its projects must undergo. NCDOT DoA has developed a project prioritization/rating process based on four quantitative criteria. DoA project scores account for 100% of the weighting for Statewide Mobility projects, 70% of the weighting for Regional Impact projects, and 50% of the weighting for Division Needs projects. In addition to DoA's scoring, local input is now part of the STI scoring criteria for all Regional Impact and Division Needs projects. Both the 14 NCDOT Transportation Divisions and Metropolitan Planning Organization (MPO)/Rural Planning Organization (RPO) constitute the local input. The Divisions and MPO/RPOs are assigned points in which they can allocate to projects based on an approved NCDOT process using both qualitative and quantitative data. The aviation scoring and criteria are summarized in **Figure 3** and detailed in **Appendix H: STI Scoring Criteria for Aviation Projects**.

**Figure 3: STI Airport Project Criteria and Weighting**

Funding Category	Quantitative Data Score	Local Input Division Score	Local Input MPO/RPO Score	Total
<b>STATEWIDE MOBILITY</b>	DoA Project Rating 40% FAA ACIP Rating 10% Local Investment Index 30% Benefit/Cost 20% TOTAL 100%	--	--	<b>100%</b>
<b>REGIONAL IMPACT</b>	DoA Project Rating 30% FAA ACIP Rating 5% Local Investment Index 20% Benefit/Cost 15% TOTAL 70%	15%	15%	<b>100%</b>
<b>DIVISION NEED</b>	DoA Project Rating 25% FAA ACIP Rating 10% Local Investment Index 5% Benefit/Cost	20%	30%	<b>100%</b>

	10% TOTAL 50%			
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Source: NCDOT

Note: pending NCDOT Board of Transportation approval

If a project is submitted for STI funding, but the overall rating or score does not qualify it for funding during the fiscal year, there may still be an opportunity to fund the project in the current fiscal year if DoA feels the project serves a need towards the improvement of the overall State airport system. In addition, if a project fails to get funded via STI during one funding cycle, it can be submitted in a subsequent year for consideration.

## Statewide Programs Funding

There are several statewide programs that provide funding for a specific type of airport project as discussed in *Chapter Three: DoA Airport Programs*. Similar to Safety/Regulatory/Operations funding, the funding for these programs is provided through the NCDOT Highway Fund. The State provides 100% of the funding for most of these projects and there is no local match needed for participation in the programs. However, airports are responsible for ensuring their airports follow the appropriate safety procedures while the projects are underway, including ensuring appropriate insurance is in place, the issuance of Notices to Airmen (NOTAMS) when appropriate, and other assistance as necessary. In order to participate in this program, airports should contact their designated [Airport Project Manager](#). NCDOT DoA has the authority to create additional programs as a system need arises.

The following State-funded special programs are available for North Carolina airport participation:

- **Airport Safety Preservation Program:** NCDOT DoA uses State staff and contractors to carry out minor airport maintenance and safety correction projects such as pavement marking, pavement sealing, crack sealing, shoulder grading, ditch cleaning, and tree removal.
- **Wildlife Hazard Management Program:** DoA partners with the USDA APHIS Wildlife Services to provide wildlife hazard site visits at general aviation airports, Wildlife Hazard Assessments at 14 CFR Part 139 certified airports, wildlife hazard training to personnel at both publicly-owned and privately owned airports, and responds to various requests for direct hazard management or technical assistance.
- **AWOS Program:** DoA partners with North Carolina airports to share some of the costs of supporting the AWOS systems. While DoA provides the original equipment, upgrades, installation and materials, provides routine maintenance (three times per year), and affords the cost of the NADIN data uplink, the airport sponsor is responsible for insuring the equipment against weather and acts of God and pays land, landscaping, electricity to the unit, and other small costs.

## II. Federal Funding Assistance

The FAA's [Airport Improvement Program \(AIP\)](#) funding is available to airports that are included in the National Plan of Integrated Airports System (NPIAS). The AIP provides funds for projects to improve infrastructure, including land purchases, runways, taxiways, aprons, lighting, navigational aids, safety, and security. 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. AIP money is distributed by the FAA through formulas set by law for apportionment (including entitlements) and discretionary grants. Two-thirds of AIP funding is allocated to apportionments and the other third is allocated to discretionary funding. For funding allocation, the FAA classifies airports as primary (airports offering commercial service with enplanements of 10,000 or more) or non-primary (NPIAS general aviation airports and commercial service airports that do not meet primary airport status). Non-NPIAS airports are not eligible for federal funding.

### State Block Grant Program

As one of 10 states that participate in the FAA's State Block Grant Program, NCDOT DoA assumes the responsibility for administering AIP funds to airports classified as non-primary. For these airports, DoA 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 DoA acts in a similar manner that 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.

### Apportionment Funding

#### Primary Airports Apportionment

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 Airports District Office (ADO) for review and/or funding. The FAA administers primary airport funding grants.

#### Primary Entitlements

Commercial service airports receive primary entitlement money every year based on the number of passenger boardings and cargo operations from the previous calendar year.

#### Cargo Entitlements

The three largest commercial service airports in North Carolina (Charlotte/Douglas International, Raleigh-Durham International, and



Piedmont Triad International) also qualify for cargo entitlements based on the previous calendar year's cargo landed weight as a percent of the total national landed weight.

## **Non-Primary Airports Apportionment**

The non-primary airport apportionment fund accounts for 20% of the total federal AIP funding. There is a two-step process to allocate the general aviation apportionment funds: 1. Allocate \$150,000 to each non-primary airport (non-primary entitlement or NPE) and 2. Allocate the remaining apportionment balance among the states based on area and population (also known as State Apportionment).

## **Non-Primary Entitlements**

General aviation airports and commercial service airports with fewer than 10,000 enplanements also receive non-primary entitlement (NPE) up to \$150,000 per year. Non-primary entitlement is designated for use at specific airports; however, projects must be eligible and justified and must meet all airside safety needs. The NPE can be carried over and accumulated, but they expire in four years. NCDOT DoA Project Managers work closely with the airports to determine the best use of NPEs. NPEs can be used in conjunction with other funding sources on projects. In North Carolina, NPEs are used for many types of projects including Airport Layout Plans, equipment upgrades, minor pavement rehabilitation, hangars, etc.

## **State Apportionment**

State apportionment funds can be used for a variety of eligible projects. In most instances, state apportionment funds can be used at the discretion of the FAA. However, in North Carolina, as a participant in the FAA's State Block Grant Program, these funds are administered at the state level. DoA uses its prioritization process as well as the FAA's prioritization to choose which projects receive this funding.

## **Discretionary Funding**

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 (35% of discretionary): This set-aside is dedicated to noise mitigation and other environmental mitigation required by FAA in the National Environmental Policy Act (NEPA).
- Military Airport Program (4% of discretionary): This set-aside is dedicated to former military airfields or joint-use airports.
- Reliever airports (2/3 of 1% of discretionary): 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. About 75% of these funds are designated as Capacity/Safety/Security/Noise projects, available only to primary and reliever airports. The remaining 25% is available to all other airports. Each year, the FAA identifies a candidate pool of the highest priority projects 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 DoA to award discretionary funds to the non-primary airports. However, as a Block Grant State, DoA oversees and administers the discretionary funds to the general aviation NPIAS airports in the State.

### **III. Local Funding**

Local communities and counties also play a large role in the funding of their local airport projects. In North Carolina, the local match for both State and federal funded 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.

### **IV. Other Funding Sources**

After exhausting the traditional aviation funding sources for airport and aviation related projects, airports in North Carolina have several additional options for funding their projects. Brief descriptions of these sources of funding are presented in the following sections.

#### **State Infrastructure Bank (SIB)**

The State Infrastructure Bank (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 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.



Generally speaking, any public entity that is authorized to construct, maintain, or finance a transportation project is eligible for SIB assistance. To be eligible for SIB assistance, a project must qualify for federal aid.

Between 1997 and 2012, eight (8) SIB agreements have been signed, worth \$3.2 million. Although aviation projects do qualify, none of the SIB funding has been utilized for these projects to date.

### **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. Golden LEAF works in partnership with local governments, educational institutions, economic development organizations, etc. to achieve their goals of transforming the economy of North Carolina. Since 1999, Golden LEAF has funded more than 1,200 projects, totaling more than \$561 million.

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.

Examples of awarded projects at airports include infrastructure needs (water and sewer) necessary for businesses to locate in airport industrial and/or business parks, thus creating new jobs and adding investment into the local community; runway and taxiway extensions that are cited necessary to retaining and expanding existing industry in the community as well as the recruitment of new businesses; development of airport industrial/business parks; and the purchase of necessary Aircraft Rescue and Fire Fighting (ARFF) vehicles to support safety at the airports and support jobs for an extended time period.

## Chapter 6: AP3X- The 10-Step Airport Project Prioritization Programming and Execution Process

DoA has identified 10 important steps for airport sponsors to adhere to when requesting federal or State funding for an airport project. 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 4** and then briefly discussed. More detailed information regarding each step, including the participants in each step and additional resources and links needed to execute each step, will be added as **Appendix I: AP3X- the 10-Step Airport Project Prioritization Programming and Execution Process** in the future.

**Figure 4: AP3X- The 10-Step Airport Project Prioritization Programming and Execution Process**



**I. 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 Airport Layout Plan (ALP). DoA requires that an ALP be updated every 10 years or as needed and be approved by DoA. Once approved, a project can be submitted to DoA for funding prior to each fiscal year through NC Partner Connect. The airport sponsor must identify details of the project, including a description of the project, a cost estimate, and depiction of project in Partner Connect. Also requested are details of the project, including a project description, sketch of project, project categorization, cost estimate, promise of local match, and estimated date of design and construction in Partner Connect. Airports must maintain these requests year to year by identifying whether or not their project requests were met. If a project was not funded, the new plan year and up-to-date cost estimates should be noted.

**II. Step 2: Evaluate and Prioritize Projects**

Once a project is submitted for a funding request via Partner Connect, DoA reviews each project for eligibility, clarity, and reasonableness. If a project is deemed as unreasonable, unclear, or ineligible for funding, it is rejected in the system and the airport sponsor will be notified. If the project is cleared for funding, DoA will determine which funding source(s) are the most appropriate based on project type (See *Chapter 5: Funding for Airport Improvement Projects*) and the project will be prioritized based on DoA's priority rating system and/or the FAA's prioritization process (See *Appendix G: Priority Rating System*). As part of this process, DoA will identify projects and award planning and environmental grants for larger construction projects to ensure these will be completed prior to construction grants. In addition, DoA will identify more projects than funding available each year, should additional Federal funds become available.

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

An airport sponsor can work closely with the selected consultant to define the scope of work and prepare fees for project design, permitting, or environmental documentation. (For DoA's required consultant selection process, see *Appendix B: Consultant Selection*). Scope and fees for each project must be submitted to DoA for review and eligibility. DoA, 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 DoA Airport Project Manager will develop the project information/justification sheet and the project goes to the Board of Transportation (BOT) for final funding approval. Once the BOT approval for a project is received, an award letter is sent to the airport sponsor.

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

When the project scope and consultant fees have been approved, the airport sponsor will develop a grant request package. If acceptable, the DoA then approves the project grant to the airport. Two original grants are sent to the sponsor for signature and seals. 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 two accepted and

signed grants, the NCDOT Deputy Secretary for Transit will execute the grant and return it to the airport sponsor along with appropriate forms for grant administration. When ready to begin the project, the airport sponsor submits Form AV-503 “Project Concurrence and Notice to Proceed” to the DoA, who issues the notice to proceed (NTP). The airport sponsor must not begin work until the signed AV-503 has been received from DoA and DoA subsequently issues the NTP.

## **V. 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. The consultant works closely with the airport sponsor and DoA. The DoA will review the project design and provide comments. The airport sponsor will submit Form AV-505 “Request for Interim Payment” as appropriate, but no more than monthly. Payment is based on work actually completed and invoiced to date. The DoA Grants Administrator and Airport Project Manager will review invoices and payments for accuracy prior to approval.

## **VI. Step 6: Bid Project**

When the project design is completed, DoA will confirm funding for construction based on the estimate and prepare the Disadvantaged Business Enterprise (DBE) goal. The sponsor will then advertise the project, open bids, and evaluate the bids. Depending on the funding and grant amount and source, the modified request may need to go to the BOT for approval as well.

## **VII. 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 DoA develop the scope and fees for construction. The consultant/engineer prepares the fees, which must be reviewed and approved by DoA.

## **VIII. Step 8: Write/Execute Construction Grant**

This step includes obtaining funds for construction and construction administration services. The airport sponsor must prepare the grant request package and submit to DoA for review and award. 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.

## **IX. 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 DoA at appropriate intervals. When the construction project is completed, the airport sponsor accepts the project and submits final pay requests to the DoA.

## **X. Step 10: Close Project**

The final step in the process is project close-out. The airport sponsor submits the project completion and grant close-out request, Form AV-506. The DoA Airport Project

Manager reviews and inspects the project 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.

## North Carolina Airports Program Guidance Handbook

# APPENDIX B: Guide to Consultant Selection

## APPENDIX B GUIDE TO CONSULTANT SELECTION

A step-by-step approach is provided here to help navigate through the requirements of retaining a consultant, contractor, or architect/engineer (A/E). Project-related services that require the skill and advice of professional experts may include planning and design of airport construction projects, airport layout plans, capital improvement plans, environmental investigations, land appraisals and obstruction evaluations. North Carolina Division of Aviation (NC DoA) staff are available to assist if questions arise during the consultant selection process.

To remain eligible for Federal funding under the Airport Improvement Program (AIP), airport sponsors must base their selection of a consultant or A/E upon qualifications and experience to comply with Federal and State law. Both AIP and State policy prohibits selection based on cost information or cost proposals. 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.

### Requirements

The following law, regulations, orders and advisory circulars 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.

### 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.

## Code of Federal Regulations (CFR)

- [Title 2 CFR part 200, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments](#): Establishes the rules and requirements Sponsors must comply with in order 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.

## 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 Advisory Circular assure conformance with 2 CFR Part 200, 49 USC 47107 and Title IX.

## FAA Grant Assurances #32

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 in order 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.”

## North Carolina General Statutes

- [North Carolina General Statute § 143-64.31 Procurement of Architectural, Engineering, and Surveying Services](#). This statute is identical to the Brooks Act and reinforces the federal law in the selection of consultants.

## 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.

## 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 Circular.

This section outlines a selection system developed and recommended by NC DoA 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, 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 NC DoA'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 1** illustrates the consultant selection process recommended for airport sponsors to follow in North Carolina. Sponsors should review FAA Advisory Circular 150/5100-14 for further information about the consultant selection process. The airport sponsor will be required to furnish NC DoA with documentation that a qualifications based selection process was followed.

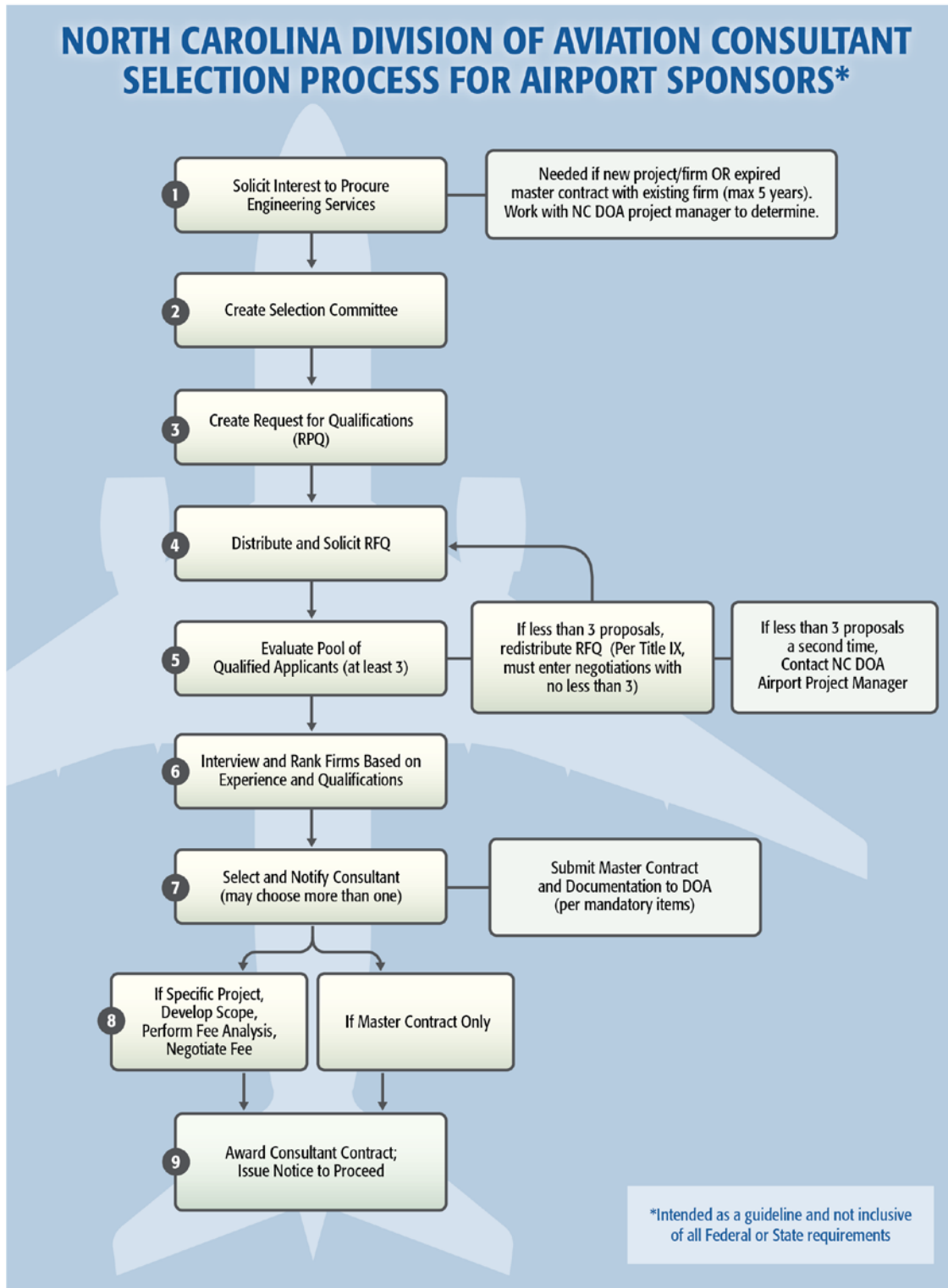
## **Step 1: Determine Need and Solicit Interest**

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 Capital Improvement Program (CIP) with its NC DoA 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.

## **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 1



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."*

Once the committee is appointed, each member is required to complete 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.

### **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. (A sample RFQ can be found [here](#) for further guidance on the development of the advertisement.) The RFQ should note that any firms interested in submitting proposals must be [pre-qualified](#) with NC DOT. The airport sponsor/selection committee should contact NCDotA to review the RFQ prior to the advertisement's publication. The RFQ should provide a list of topics that may be covered in the consultant interview and the length of time expected for each interview.

**Step 4: Distribute RFQ/Solicit Proposals:** 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 of time long enough to ensure as many potential firms will view the advertisement as possible. In order to ensure full and open competition, per §200.319(A), DoA 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.

## **Step 5: Evaluate Pool of Qualified Applicants**

Each member of the selection committee shall review and evaluate each statement of qualifications. [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 should use a rating worksheet (see Appendix B-1) 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 statements of qualifications and will provide the committee with the basis by which to rank the firms once all reviews are complete.

Per [Title 40 USC § 1103\(c\)](#), the selection committee must receive statements of qualification from at least three (3) qualified firms. If the selection committee does not receive three statements, it must re-advertise the solicitation.

## **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. DoA 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 should score the consultants based on the interview utilizing a pre-defined scoring criteria (see Appendix B-2). Once all interview rating worksheets have been completed, the results can be compiled on a consultant ranking sheet (see Appendix B-3).

### **Step 7: Select and Notify Consultant**

After the committee has reviewed all statements of qualifications 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.

### **Step 8: Project Scoping Meeting, Negotiate Consultant Contract/Fee, & 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, first 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 NC DoA personnel 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 NC DoA project manager will review proposed engineering costs to determine:

- a) Reasonableness of costs – Based upon both the sponsor cost/price analysis and the NC DoA cost/price analysis.
- b) 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.)
- c) 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 and shall be considered eligible. This is NCDOT policy as well as a federal requirement per [2 CFR 200.331](#).



Costs the PM deems unreasonable or not necessary may not be eligible. Close coordination with the PM 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. For assistance in determining the appropriate level of fee analysis, the sponsor should contact their NC DoA project manager 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.

**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

## Additional Resources

[Advisory Circular 150/5100-14E, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects](#)

[AIP Sponsor Guide 300, FAA Central Region](#)



# PROGRAM GUIDANCE HANDBOOK

APRIL 2016

## Required Contract Provisions for Airport Improvement Program and for Obligated Sponsors, FAA

## Appendix B-1

### PRELIMINARY SELECTION/EVALUATION FORM

#### ARCHITECT/ENGINEERING/CONSULTANT SERVICES

QUALIFICATION-BASED SELECTION (This form is to be used in the first step, short listing of an architectural/engineering/consulting services selection process.)

Evaluator #: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Name of Project: \_\_\_\_\_

#### RFQ REFERENCE

MINIMUM REQUIREMENTS (including prequalified with NCDOT) Y \_\_\_\_ N \_\_\_\_

If the minimum requirements have not been met, specify the reason(s):

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#### SCORE (PROJECT SPECIFIC QUALIFICATIONS):

Weight<sup>1</sup> x Rating<sup>2</sup> = Score

##### 1. PROJECT TEAM

- |  |                       |
|--|-----------------------|
| <input type="checkbox"/> Qualifications and relevant individual experience.                | _____ X _____ = _____ |
| <input type="checkbox"/> Unique knowledge of key team members relating to the project.     | _____ X _____ = _____ |
| <input type="checkbox"/> Experience on projects <u>as a team</u> .                         | _____ X _____ = _____ |
| <input type="checkbox"/> Key staff involvement in project management and on-site presence. | _____ X _____ = _____ |
| <input type="checkbox"/> Time commitment of key staff.                                     | _____ X _____ = _____ |
| <input type="checkbox"/> Qualifications and relevant subconsultant experience.             | _____ X _____ = _____ |

##### 2. FIRM CAPABILITIES

- |   |                       |
|---|-----------------------|
| <input type="checkbox"/> Are the lines of authority and coordination clearly identified?                    | _____ X _____ = _____ |
| <input type="checkbox"/> Are essential management functions identified?                                     | _____ X _____ = _____ |
| <input type="checkbox"/> Are the functions effectively integrated (e.g., subconsultants' roles delineated?) | _____ X _____ = _____ |
| <input type="checkbox"/> Current and projected work load.   | _____ X _____ = _____ |

## PROGRAM GUIDANCE HANDBOOK

APRIL 2016

### 3. PRIOR EXPERIENCE/PERFORMANCE

- ❑ Experience of the key staff and firm with projects of similar scope and complexity.
- ❑ Demonstrated success on past projects of similar scope and complexity.
- ❑ References.

         X          =         

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

X =

#### 4. PROJECT APPROACH

- ❑ Budget methodology/cost control.
- ❑ Quality control methodology.
- ❑ Schedule maintenance methodology.

X =

X =

$$X =$$

## 5. WORK LOCATION

- ❑ Proximity of firm's office as it may affect coordination with the state's project manager and the potential project location.
- ❑ Firm's familiarity with the project area.
- ❑ Knowledge of the local labor and material markets.

           X            =           

X =

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).

## Appendix B-2

**INTERVIEW SELECTION/EVALUATION FORM**  
**ARCHITECTURAL/ENGINEERING/CONSULTANT SERVICES**

QUALIFICATION BASED SELECTION (This form is to be used in the second step, i.e. oral interview, of an architectural/engineering/consulting services selection process.)

Evaluator #: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Name of Project: \_\_\_\_\_

**SCORE (OVERALL QUALIFICATIONS)<sup>1</sup>:**

$$\text{Weight}^2 \times \text{Rating}^3 = \text{Score}$$

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.

APPENDIX B-3

**FINAL RANKING MATRIX**

**QUALIFICATION-BASED SELECTION**

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

FIRM	QUALIFICATIONS SCORE <sup>1</sup>						CUMULATIVE <sup>2</sup> TOTAL SCORE	RANK <sup>3</sup>
	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. Rank all firms with the highest scoring firm being the most qualified.

## North Carolina Airports Program Guidance Handbook

# APPENDIX A: Statutory Guidance

## APPENDIX A

### STATUTORY AUTHORITY AND LEGAL NOTES

Airport sponsors are obligated by a number of different state and federal statutes in carrying out projects under State Aid to Airports and the Federal Airport Improvement Program (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 carried out. 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 legislation, rules, and regulations that lay the foundation for airport operations and development. Each airport sponsor should rely upon his professional support team, particularly his attorney and engineer, to review potential laws.

#### I. State Regulations & Statutory Requirements

##### State Aviation Statutory Authority

The North Carolina General Statutes present the laws established by the North Carolina legislature and contains 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 Division of 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 give 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.

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- [\*\*Article 6- Public Airports and Related Facilities\*\*](#): Discusses the powers of local governments with regard to 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 carry out 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.

### [\*\*State Transportation Investments \(STI\)\*\*](#)

[\*\*House Bill 817\*\*](#) signed the State Transportation Investments (STI) into law on June 26, 2013. STI provides for a new funding formula for NCDOT's Capital Expenditures. All capital expenditures, regardless of modes, beginning in July 2015, will be funded from Highway Trust Fund and all modes 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 North Carolina Division of Aviation (DoA).<sup>1</sup>

Each project competing for STI funding will be scored using criteria set by the separate modes (Highway, Aviation, Bike & Ped, Rail, Ferries and Public Transit). Once projects are scored by their mode, the project in the Regional and Division Eligibility Categories are evaluated and points are assigned by the appropriate [\*\*NCDOT Division Engineers\*\*](#)

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<sup>1</sup>In addition to STI funding, NC DoA also administers the FAA's Non-Primary Entitlement (NPE) funding (for general aviation 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.



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and [Metropolitan Planning Organizations \(MPOs\)](#) or [Rural Planning Organizations \(RPOs\)](#). The Division Engineers and MPOs/RPOs have a total number of points to assign to various projects and modes based on their inherent importance to the region. Also, once these projects are scored and points awarded, the year a selected project is expected to be programmed is also determined (over 10 years).

STI's Strategic Mobility Funding formula funds projects in three categories. North Carolina's NPIAS airports have been classified into one of three funding Eligibility Categories:

- Statewide – CLT (Charlotte-Douglas International), RDU (Raleigh-Durham International), GSO (Piedmont-Triad International) and ILM (Wilmington International)
- Regional – AVL (Asheville Regional), EWN (Coastal Carolina Regional, New Bern), FAY (Fayetteville Regional), OAJ (Albert J Ellis, Jacksonville), PGV (Pitt-Greenville)
- Division – all publicly owned non-commercial service airports (General Aviation) in the NPIAS

In order for a project to be considered for STI funding, an airport must still enter all projects without regard to funding source into Partner Connect. Once the project is entered and supporting documents are uploaded, the project will be vetted and scored by the Division of Aviation. The scores are based on the quantitative merits of the project. DoA has developed [scoring criteria](#) for each Eligibility Category. These scores are then combined with Division Engineers and MPO/RPO scores for a final score. One area that the score can be affected by the Sponsor is the amount of local match put forward for that project. The higher the ratio of local funds to state funds the sponsor has committed to a project, the higher the score for that criteria will be.

A \$500,000 cap per project per year is a legislative limit placed on commercial service airports in the Statewide eligibility group. This is historically the amount of State Airport Aid funding they have received. The STI program cycle is every two years.

### 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:

- [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.

### 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 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 \(1971\)](#)**: Sets forth the SEPA compliance process and is administered by the North Carolina Department of Administration (DoA). Under the law, meeting the requirements of the National Environmental Policy Act meets the requirement of SEPA. The rules ([01 NCAC 25](#)) specify that the federal (NEPA) document must be reviewed through the State Clearinghouse process. Sponsors must coordinate all Environmental Assessments (EAs) and Environmental Impact Statements (EISs), with the Clearinghouse and format documents according to [Clearinghouse specifications](#). The Clearinghouse circulates the environmental documents to various other state agencies. The Department of Administration recommends to the state project agency whether any further action is needed to comply with SEPA. If no further action is needed, DoA will notify the project agency that requirements of SEPA have been met. Environmental documentation is not needed in certain instances as noted in [G.S. 113A-12](#) (of which some was rewritten in 2015 under [House Bill 795](#)) of the North Carolina SEPA.
- **[North Carolina Department of Environment and Natural Resources \(NCDENR\)](#)**:  
NCDENR's primary mission is to protect North Carolina's environment and natural resources. There is a considerable amount of permits, licensing, and requirements of NCDENR that impact airports including the following program:
  - [Stormwater Permitting Program](#): The Stormwater Permitting Program develops, plans and implements statewide stormwater control policies, strategies and rules designed to protect surface waters of North Carolina from the impacts of stormwater pollutants and runoff. Airports must review and utilize NCDENR's [Stormwater "Best Management Practices" \(BMP\) Forms and Manual](#), particularly [Chapter 13: BMP Toolbox for Public Airports](#).
- **[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 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.

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- **NC GS 136-18(22) Highway Construction near Airports**: This statute provides for the preservation of safe clearances between airports and public roads during airport construction and alteration. A permit must be obtained from the NCDOT if construction will alter safe clearances.

## II. Federal Regulations & Statutory Requirements

The U.S. Department of Transportation (USDOT) is the federal agency authorized and required under federal law to regulate aviation and other modes of transportation in the U.S. The Federal Aviation Administration (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.

### 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 assurances are attached to the application or the grant for Federal assistance. The duration of these obligations depends on the type of recipient, the useful life of the facility being developed, and other conditions.

The FAA's [AIP Handbook](#) provides guidance to FAA staff and sets forth policy and procedures for administering the AIP. It establishes what airports and types of projects are considered eligible using federal AIP funds. Eligible projects include improvements related to enhancing airport safety, capacity, security, and environmental concerns. This

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includes most airfield capital improvements or repairs and in some specific situations, for terminals, hangars, and nonaviation development. Any professional services that are necessary for eligible projects are also eligible. Projects related to airport operations and revenue-generating improvements are typically not eligible for funding.

North Carolina is one of 10 states that participate in the FAA's [State Block Grant Program](#). Under this program the State assumes responsibility for administering AIP grants at airports classified as non-primary commercial service, reliever, and general aviation airports. DoA is responsible for determining which airports will receive federal funds for various eligible projects. Program requirements are contained under [U.S.C. Title 49 Section 47128](#). The State must adhere to FAA's [Assurances for the Aviation Block Grant Program](#).

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 Modernization and Reform Act of 2012](#): 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 21<sup>st</sup> 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 the authority 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,

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safety, or security of the national transportation system; reduce noise impacts; or help enhance competition among air carriers.

### **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/](http://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 handling PFCs for commercial service airports.

There are many FAA 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.



- [150/5300-13A, Change 1: Airport Design](#): Contains the standards and recommendations for airport layout and design. This includes the required dimensions of various safety areas.
- [150/5360-9: Planning and Design of Airport Terminal Building Facilities at Non-Hub Locations](#): Provides guidance for constructing terminals at non-hub airports.
- [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.

### **Federal Regulations Pertaining to Land Purchase and Disposal**

Many of 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 funding projects to develop land acquisition and relocation assistance procedures in conformance to the Uniform Act.

### **Federal Environmental Regulations**

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 with the potential for impacts is proposed. NEPA and other environmental

laws impose significant 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. Several states have additional environmental requirements referred to as mini-NEPA laws. Airports, in close coordination with the FAA, must undertake Environmental Assessments (EA) or Environmental Impact Statements (EIS) to provide full disclosure of significant environmental impacts and ensure the NEPA requirements are met. Some projects may qualify for a Categorical Exclusion (CATEX) from any formal environmental review if they pose no impact to the environment, or if the extent of the impact is relatively small or insignificant.

In addition to NEPA, there are many other federal regulations and orders pertaining to protection of the environment 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. The FAA's [Airport Environmental Program](#) helps airports implement these federal environmental laws and regulations.

## NEPA-Related Orders and Policies for Airports

A list and description of key NEPA-related environmental policies that an airport must follow in its development and maintenance include:

- **[FAA Order 1050.1E, Environmental Impacts: Policies and Procedure:](#)** Sets forth policy and procedures for the FAA's NEPA compliance. Much of the responsibility shifts to the airport sponsor, including environmental analysis and shepherding the environmental process required by NEPA. Airport sponsors must follow procedural requirements for public involvement, including making documents available for public review and holding public hearings.
- **[FAA Order 5050.4B: National Environmental Policy Act \(NEPA\) Implementing Instructions for Airport Projects:](#)** Provides information to the FAA and airport sponsors in fulfilling NEPA requirements for airport actions under the FAA's authority. This order is part of the FAA's effort to ensure its personnel have clear instructions to address potential environmental effects resulting from major airport actions.

## Noise Regulations

As air travel and the demand for jet service expanded in the 1960s, concerns, complaints, and environmental awareness regarding noise grew among residents living in close proximity to airports. Airports are responsible for the noise impact on their community associated with aircraft and helicopter arrivals and departures as well as those aircraft in flight paths within the vicinity of airports. The FAA and airports take noise abatement seriously and recognize the importance of being a good neighbor. NEPA was the first act of federal legislation that required airports to study and analyze



airport noise impacts before undertaking airport improvement projects. Regulations and legislation that address minimizing noise impacts on nearby communities, noise compatibility planning, and noise restrictions are listed here. In addition, the FAA has developed standards for aircraft to address noise concerns. Noise mitigation is one of the few things (in addition to construction, land acquisition, and airport operations) on which public-use airports can spend airport-generated revenues.

### Airport Noise Compatibility Planning Regulations

- **[1976 Aviation Noise Abatement Policy \(ANAP\)](#)**: Addresses the responsibility of state and local governments, local officials, aircraft manufacturers, air carriers, and airport sponsors in the abatement of aircraft noise.
- **[Aviation Safety and Noise Abatement Act of 1979 \(49 U.S.C. 47501-47509; ASNA Act\)](#)**: Establishes the Airport Noise Compatibility Program (14 CFR Part 150) and delegates implementation of noise compatibility to the FAA. This was re-codified as 49 U.S.C. 47501-47509, which authorizes funds for noise compatibility planning and to carry out programs as set forth in the ASNA Act.
- **[14 CFR Part 150: Airport Noise Compatibility Planning](#)**: Includes procedures, standards, and methodologies to be used by airport operators in the development of airport noise compatibility planning programs. The following items are included under the guidance:
  - Establishes standard noise methodologies and units.
  - Establishes the Integrated Noise Model (INM) as the standard noise modeling methodology.
  - Identifies land uses that are compatible or incompatible with various levels of airport noise.
  - Provides guidance for the development of Noise Exposure Maps and Noise Compatibility Programs (and for FAA review and approval) for airport operators.
  - Outlines criteria and procedures to make airport noise projects submitted through the AIP eligible for funding.
  - 1998 policy further defines that FAA approval of remedial noise mitigation measures, such as soundproofing, property acquisition, and relocation, is only for incompatible development that existed before October 1, 1998. Incompatible development occurring after 1998 may be addressed with preventative noise mitigation techniques such as zoning, subdivision regulations, or other land use controls.
- **[Airport and Airway Safety and Capacity Expansion Act of 1987 \(AASCE\)](#)**: Amended the ASNA Act. This requires airport sponsors to

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provide notice and opportunity for a public hearing before submitting noise compatibility programs to the FAA.

- [\*\*Vision 100-Century of Aviation Reauthorization Act \(VISION 100\):\*\*](#) Includes new requirements for airport noise compatibility planning.

### **Regulations of Airport Noise and Access Restrictions**

- [\*\*Airport Noise and Capacity Act of 1990 \(ANCA; 49 U.S.C. App. 2153-2156\):\*\*](#) Establishes a national policy on aviation noise.
- [\*\*14 CFR Part 161: Notice and Approval of Airport Noise and Access Restrictions:\*\*](#) Implements the ANCA. This prescribes notice, review, and proposal requirements and procedures for airport operators implementing or proposing aircraft noise and access restrictions. It establishes a national program for the FAA to review local noise and access restrictions on aircraft operations imposed by airports.

### **Federal Aircraft Noise Regulations**

- [\*\*14 CFR Part 36: Noise Standards: Aircraft Type and Airworthiness Certification:\*\*](#) Establishes noise standards for newer turbojet and transport aircraft (Stage 3 aircraft). Subsequent amendments have extended noise standards to include other aircraft including large and small propeller planes and supersonic transport aircraft.
- [\*\*14 CFR Part 91: General Operating and Flight Rules:\*\*](#) Scheduled the removal or retrofit of all Stage 1 aircraft by 1985 and the elimination of Stage 2 aircraft weighing more than 75,000 pounds by 2000. Required that jet aircraft be Stage 3 certified (jet aircraft that has the latest noise suppression technology); limits aircraft based on FAR Part 36 certification status. In 2013, ANCA was amended to require all aircraft weighing less than 75,000 pounds to meet Stage 3 requirements by December 31, 2015.

The following FAA Advisory Circulars aid airports in the development of noise abatement procedure and programs.

- [\*\*150/5000-9A: Guidelines for the Sound Insulation of Residences Exposed to Aircraft Operations\*\*](#)
- [\*\*150/5020-1: Noise Control and Compatibility Planning for Airports\*\*](#)

### **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 large role in ensuring that the land uses surrounding the airport are compatible with airport operations.

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

- [\*\*150/5070-6B: Airport Master Plans\*\*](#): Provides guidance for the development of airport master plans, including the appropriate safety area and zoning designations.
- [\*\*150/5190-4A: A Model Zoning Ordinance to Limit Height of Objects Around Airports\*\*](#): Provides a model zoning ordinance and identifies compatible land use tools and techniques to protect surrounding communities from adverse impacts associated with airport operations.

## **Air Quality Regulations**

Airport emissions affecting local air quality can come from aircraft, vehicles, grounds service equipment, and airport facilities. The [Clean Air Act](#) (CAA) (U.S.C. Title 42 Section 85) directs the EPA to regulate emissions of air pollutants and to establish emission standards, known as the National Ambient Air Quality Standards (NAAQS). As required by NEPA, the FAA and airports must conduct air quality analyses for projects that have the potential to affect the attainment and maintenance of air quality standards. Under the CAA, each state is required to develop a State Implementation Plan (SIP), which details the individual states regulations and measures to reduce air pollution. Airports must also ensure that they conform to their state's SIP. The following additional legislation imposes regulations on airports to follow regarding air quality.

- [\*\*42 U.S.C. 85- Air Pollution and Control\*\*](#): Incorporates the Clean Air Act, which defines the EPA's responsibilities for protecting and improving air quality.
- [\*\*Vision 100-Century of Aviation Reauthorization Act \(VISION 100\)\*\*](#): Includes provisions intended to reduce airport ground emissions at commercial service airports. The FAA implemented the Voluntary Airport Low Emissions (VALE) program, which allows sponsors to use FAA funds or PFC funds to finance items that improve air quality, such as low emission vehicles.
- [\*\*40 CFR Part 81: Air Quality Designations for the 2010 Sulfur Dioxide \(SO<sub>2</sub>\) Primary National Ambient Air Quality Standard\*\*](#): Establishes air quality standards for airports for SO<sub>2</sub> NAAQS.
- [\*\*40 CFR Part 93, Subpart B: Determining Conformity of General Federal Actions to State or Federal Implementations Plans\*\*](#): Outlines that the FAA is required to assess direct and indirect project-related emissions for general conformity.

### Water Quality Regulations

Stormwater run-off is a concern at airports due to pollutants associated with activities such as refueling, fuel storage, deicing, construction and maintenance, as well as increased run-off flows from the impervious surfaces at an airport. All of these factors can result in impacts to waterways or wetlands. The discharge of pollutants associated with these activities into waters of the U.S. are regulated under provisions of the [Clean Water Act](#) (CWA). The primary mechanism for this regulation is the National Pollutant Discharge Elimination System (NPDES) program, which requires an NPDES permit for stormwater associated with industrial activities at an airport. These include vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations, or deicing operations. An airfield where none of these activities occur does not necessarily need an NPDES permit. The following sections for the CWA are particularly applicable to airports.

- [Section 401: Certification](#) – Ensures that any activity that may result in a discharge of a pollutant into U.S. waters or wetlands be evaluated for its effects upon water quality and must be in compliance with federal and state effluent limitations and water quality standards.
- [Section 402: National Pollutant Discharge Elimination System](#) – Outlines the NPDES program, which regulates discharge of pollutants to surface waters, either directly or indirectly.
- [Section 404 \(b\) \(1\)](#) – Provides for the protection of U.S. waters and wetlands by ensuring alternatives to avoid and minimize impacts have been considered.
- [Section 303 \(d\)](#) – Requires development of Total Maximum Daily Loads (TMDLs) for water bodies not meeting water quality standards.

In addition, the [Oil Pollution Act \(OPA\)](#) requires airports to develop a Spill Prevention, Control, and Countermeasure (SPCC) plan which ensures that airports have planned for and taken measures to prevent damage from fuel spills.

Other FAA Advisory Circulars that provide guidance into stormwater runoff and other water at airports include:

- [150/5300-13A, Change 1: Airport Design](#)
- [150/5320-5D: Airport Drainage Design](#)
- [150/5320-15A: Management of Airport Industrial Waste](#)

### Endangered Species Protection Regulations

Endangered and protected species often find habitat in and around airports attractive and can pose a concern for developing airport projects that expand on the land envelope. [The Endangered Species Act of 1973](#) ensures that proposed projects do not jeopardize the continued existence of, or result in the destruction of, any designated critical habitat for threatened or endangered species.

**Historic Preservation Regulations**

Homes or properties that are acquired or altered by a proposed development project as part of a land use management program are subject to review and coordination. The [National Historic Preservation Act of 1966](#) directs the federal government to play a role in the preserving, restoring, and maintaining of historic and cultural environments.

**Other Environmental Regulations**

There are additional regulations that address potential environmental impacts at or near airports including:

- [Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports \(78 FR 63276\)](#): Provides standards for measuring the impact of proposed solar energy systems for airport sponsors of federally-obligated airports and provides requirements for airport sponsors to obtain FAA approval to construct a solar energy system.

**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 take into account 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:

- [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:

- [150/5200-32B: Reporting Wildlife Aircraft Strikes](#)
- [150/5200-33B: Hazardous Wildlife Attractants On or Near Airports](#)
- [150/5200-34A: Construction or Establishment of Landfills near Public Airports](#)
- [150/5200-36: Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculum for Airport Personnel Involved in Controlling Wildlife Hazards on Airports](#)
- [150/5200-38 Protocol for the Conduct and Review of Wildlife Hazard Site Visits, Wildlife Hazard Assessments, and Wildlife Hazard Management Plans \(not yet published\)](#)

### 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 very 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.

### Safety and Security Regulations

Safety and security at airports in the U.S. is guided by the Transportation Security Administration (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 general aviation 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.



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- **[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 general aviation aircraft.

### 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.
- **[National Historic Preservation Act of 1966](#)**: Requires evaluation of the effects on historic properties for any airport development projects. If adverse effects are found, requires efforts at mitigation up to, and including, cancellation of the project.
- **[Archeological and Historic Preservation Act of 1974](#)**: Same as above, except applied primarily to the preservation of sites containing significant remains of civilizations, animals, or structures.
- **[Flood Disaster Protection Act of 1973](#)**: Creates restrictions and additional requirements for construction which might take place in a flood plain or other prone area.

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- **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 amount 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 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.
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### **III. 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 his professional support team in the evaluation of both airport operations and construction projects.

# APPENDIX C: NC Division of Aviation Wildlife Hazard Program

## An Innovative Program for Addressing Wildlife Hazards at Airports

Implemented in 2004 in North Carolina by the

N.C. Department of Transportation, Division of Aviation

### Executive Summary

July 2013

What do a coyote, a hawk, and a snapping turtle have in common? They have all been reported this year as having been struck by aircraft in North Carolina. Wildlife hazards to aircraft have been around for as long as powered flight has existed. Wilbur Wright sustained the first recorded bird strike as noted in his diary on September 7, 1905. Thankfully, it was not fatal...but it was not long before the first fatal wildlife strike was documented in 1912. Though an awareness of wildlife hazards has existed in the aviation community since then, it was not until January 15, 2009, when a bird strike forced US Airways Flight 1549 to crash land in the frigid Hudson River, that the public received a powerful wakeup call. Now it is not uncommon to read media reports of aviation/wildlife incursions. However, the [North Carolina Department of Transportation's Division of Aviation](#) was already heeding the warnings of our state's historical aviation innovators, well before the "Miracle on the Hudson." In 2004, the Division of Aviation created the first statewide initiative in the U.S. to minimize wildlife hazards at airports. Since then, it has served as a national model for similar airport programs in other states.

In keeping with the Federal Aviation Administration's policy and recommendations to reduce the risk of wildlife hazards at airports, the Division of Aviation created a program to address wildlife hazard management as detailed in current FAA guidance and other resources



The Division, in partnership with [USDA, Animal and Plant Health Inspection Services, Wildlife Services \(USDA WS\)](#), provides a variety of services to North Carolina airports for the purpose of reducing wildlife hazards and increasing safety for aviators and passengers. 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, and training is offered free of charge to the aviation community.

The program was designed to assist smaller general aviation airports that may not have financial resources to obtain such services. Since 2004, The Division of Aviation has invested approximately \$1.5 million in the program, which has allowed USDA WS to conduct wildlife hazard site visits at 52 general aviation airports, Wildlife Hazard Assessments and Management Plans at 10 certificated airports, train over 600 airport personnel throughout the state, provide over 100 direct hazard management requests, and provide over 300 requests for technical assistance. Most telling is the dramatic increase in strike reporting to the FAA National Wildlife Strike Database: 82 strikes in 2004 vs. 232 strike reports in 2012.

The training has been embraced enthusiastically by state airports and [Division 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.

## Program Implementation

In 1967, the North Carolina General Assembly passed the first State Aid to Airports Program, with the primary goal of assisting public general aviation airports in North Carolina. As is still true today, FAA funding is centered heavily on commercial service airports, leaving thousands of GA airports to share a much smaller portion of federal funds. The N.C. Division of Aviation continues to administer the State Aid to Airports program that is now funded through the N.C. Department of Transportation. The Division recognized long ago that GA airports are valuable assets to the state, both for advancing economic development locally and statewide, as well as for boosting support for multimodal transportation.

The Division’s Wildlife Hazard Management Program was created in 2004 with small regional GA airports in mind. While commercial airports can often create revenue from Passenger Facility Charges, landing and parking fees, and ground leases, most GAs are able to cover only their operation and maintenance on the limited fuel revenues and local funding they receive.

In 1990, FAA began keeping a database of reported wildlife strikes. The database produced clear evidence of increasing strikes. In 2002, there was a significant bird strike incident at one of North Carolina’s larger commercial service airports. At the urging of the FAA regional certification office, the airport operations management reached out to the USDA WS Office for assistance in evaluating their

airport and recommending mitigation for the wildlife hazards that were becoming more frequent and dangerous. One result of the site visit was the airport's hiring of the visiting Wildlife Services biologist to do full-time wildlife hazard management at their airport.

FAA had been regularly warning that wildlife strikes were increasing. The Division took notice of this trend, studying the Advisory Circulars and recent guidance supplied by FAA. Strikes were increasing for many reasons, including wildlife population increases and quieter aircraft engines.

Division staff met with the USDA's WS state program office and inquired about a comprehensive program for wildlife management, encompassing all public airports in North Carolina. This meeting led to the first Cooperative Services Agreement (CSA), signed on October 28, 2004. Interestingly, the NCDOT Division of Highways was already working with USDA WS for beaver control and management with great success in order to protect infrastructure and water quality. The aviation CSA was modeled after the highways CSA, with an emphasis on safety and education. The agreements are renewed or extended every two years.

The first CSA was in the amount of \$15,000. The work plan included site visits to 12 GA airports and direct management activities on an as-needed basis for any public state GA airport. The agreement contained attachments detailing the work plan and the financial plan.

Wildlife Services produced a deliverable for each airport that received a site visit. This consisted of a 3-5 page report documenting the visit, specifics on what species were seen on or near airport property, details of meeting with the airport operator, wildlife hazard issues specific to each airport, and recommendations tailored to each airport. The report was something airports could keep and refer back to, as well as share with their local governing body. It was the first form of outreach and education to the GA airports, and gave airports some tangible evidence to their users that they were taking wildlife hazards seriously, as well as evidence that they were aware of FAA documentation that indicated a growing threat.

**COOPERATIVE SERVICE AGREEMENT**  
**between**  
**NORTH CAROLINA DEPARTMENT OF**  
**TRANSPORTATION**  
**DIVISION OF AVIATION (NCDOTDA)**  
**and**  
**UNITED STATES DEPARTMENT OF AGRICULTURE**  
**ANIMAL AND PLANT HEALTH INSPECTION SERVICE**  
**(APHIS)**  
**WILDLIFE SERVICES (WS)**  
**ARTICLE 1**

The purpose of this Cooperative Service Agreement is to provide services to the NC DOA. The services are designed to assist the flying public of North Carolina by conducting operational services, Initial Consultations, Wildlife Hazard Assessments, training, and when requested, Wildlife Hazard Management Plans including recommendations to mitigate wildlife hazards to aviation at airports throughout the state.

WS activities are described in the Work and Financial Plans (Attachments A and B). Wildlife Hazard Management, Training, and Mitigation provided by WS will follow as recommended and detailed in the following FAA guidance

A 2001 [Part 139 Regulatory Evaluation](#) concluded that airport sponsors need to “be aware of the wildlife hazards on their airports and take appropriate actions, under the guidance of professional biologists trained in wildlife damage management, to minimize the problems.” The 2004 [Part 139 Rule](#) specifies conditions under which Wildlife Hazard Assessments and Management Plans are required for certificated airports. The rule also calls for mandatory training for airport operations personnel at any Part 139 airport that had an active Wildlife Management Plan.

The Division of Aviation saw this as an additional opportunity to assist smaller airports with limited revenues. Since training was now required for most commercial service airports, the Division considered adding a training element to the program that would include any state airport, public or private, large or small. USDA staff recognized as “qualified airport wildlife biologists,” per [FAA guidance](#) concerning wildlife hazard management at airports, would lead the one day on-airport training courses.

The classes were included in the work plan for the second CSA, signed in 2007, between the Division of Aviation and USDA APHIS Wildlife Services, “Under this work plan the North Carolina program of USDA WS also will be available to assist NCDOTDA with developing and conducting specialized training sessions for airports and their employees in North Carolina. This training will focus on recognizing and mitigating wildlife hazards to aviation as specified in 14CFR139 .337 and 14CFR139 .303.”

The training has continued to evolve through the years and has been widely commended by attendees as a very enjoyable and informative day. 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. The afternoon is spent outdoors on airport property, teaching management techniques such as pyrotechnics use for harassment, trapping persistent species, and perimeter security enhancement.



One of the best aspects of the training has been the relationship that state airports' staffs have built with USDA WS. The airports now have a point of contact when they need immediate assistance with a sudden problem with a particular wildlife hazard. The USDA 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.

The Division of Aviation considers the training to be the best measure of success for the program. In 2012, approximately 114 airport personnel were trained in North Carolina.

The second CSA also included a work task for Wildlife Hazard Assessments (WHAs) to be conducted at two smaller commercial service airports. Following the assessment, a Wildlife Hazard Management Plan was to be completed at these same two airports. Additionally, 12 site visits to GA airports, six training classes per year throughout the different regions of the state, and direct management assistance at airports would be

conducted on an on-call basis.

The cost for the second CSA was \$260,520. It was a two-year agreement with a provision for amending and extending for an additional three years. The addition of WHAs expanded the program markedly in depth, breadth, and cost. These assessments are labor-intensive tasks typically performed at Part 139 airports, requiring on-airport observation and analysis by a qualified airport wildlife biologist for a full 12-month cycle, as opposed to the 1.5 day "snapshot" wildlife hazard site visits usually performed for GA airports. The deliverable is a comprehensive report of documented observations and very specific recommendations that cater to each airport's environment. They are valuable documents and the expertise for the assessment comes at a higher cost due to the duration of the study. In North Carolina, there are 14 Part 139 airports. However, 4 of the 14 do not have commercial service. They maintain Part 139 intentionally, as their infrastructure will support the return of commercial service, and they wish to remain ready for any opportunities. Their revenue resources are much more limited than the commercial service airports, however. Funding assistance from the Division of Aviation for WHAs has been popular and welcome among all airports, but especially the Part 139 airports that are required by FAA to comply with 14CFR139 .337 to manage their wildlife hazards.

The wildlife hazard site visits may only be a "snap shot" of airport wildlife activity, but the deliverables pack a lot of information and recommendations into a letter report based upon that short visit. The letter report details the site visit dates and attending staff, both for the airport and USDA. Next, a section is devoted to observations, including general airport layout and size. The wildlife species are documented and discussed, and bird species in particular are listed in a table that tells a story about the



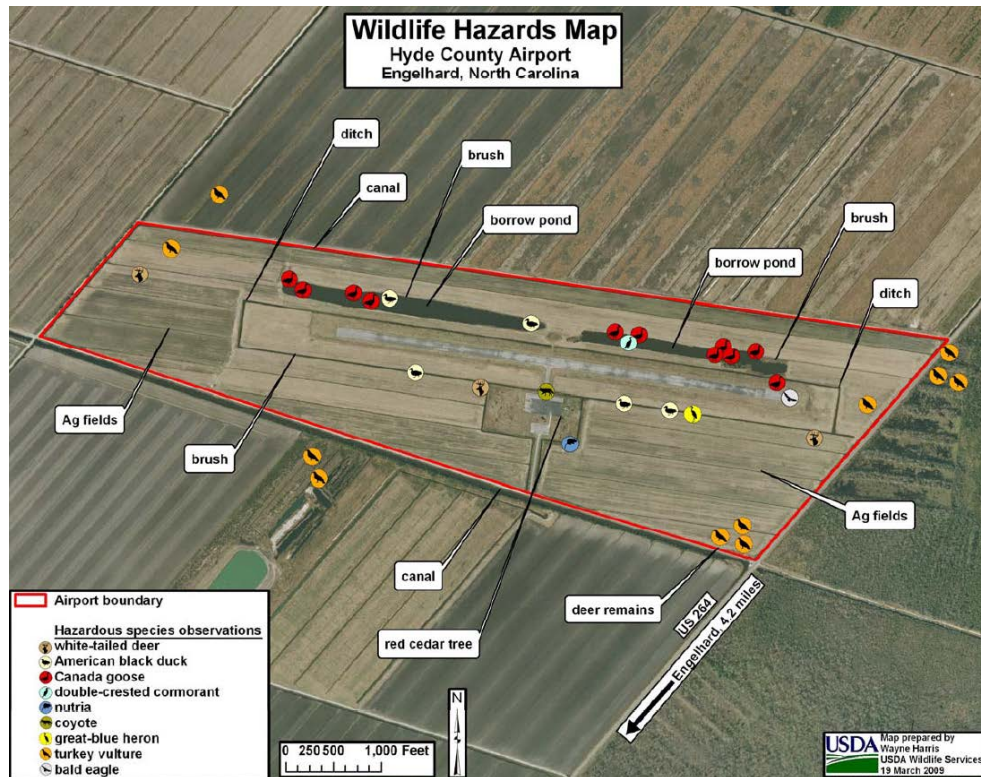
presence of birds at the airport. The biologists typically observe hundreds of birds and usually between 10 and 30 different bird species. For example, the Division and airport operator receive information on how the birds are generally using the airport:

Species	Flying	Not Flying	Total
Common grackle	2	-	2
Double-crested cormorant	1	-	1
Eastern kingbird	1	-	1
Eastern screech owl	-	1	1
European starling	2	39	41
Glossy ibis	-	2	2
Great egret	-	1	1
Killdeer	10	31	41
Mourning dove	4	84	88
Pileated woodpecker	2	-	2
Purple martin	1	36	37
Unknown gull	3	-	3
Unknown tern	1	-	1
Total Observed (13 species)	27	194	221

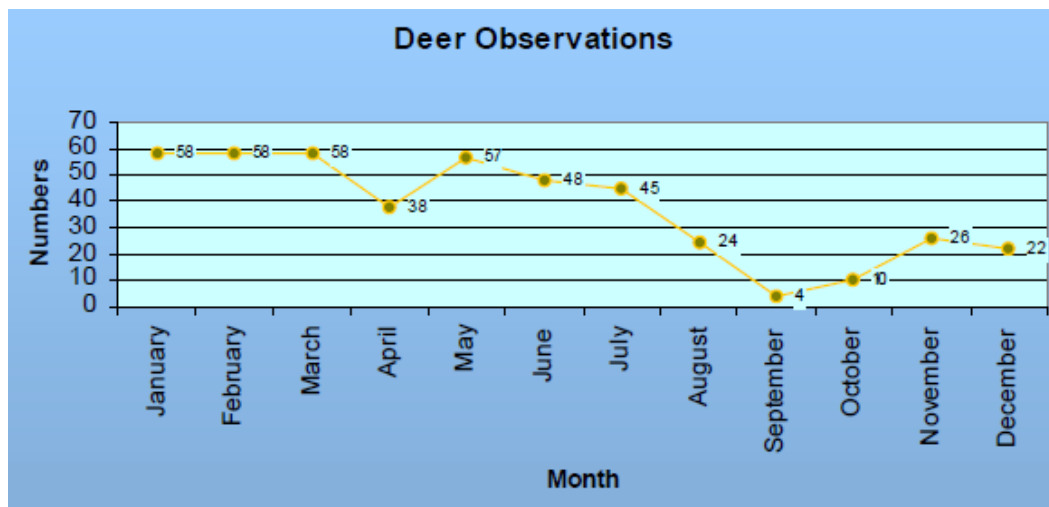
Observations continue with a discussion of wildlife habitat present on the airport and habitat and attractants for wildlife that are within a short distance of the airport (e.g. lakes, refuges, farms, landfills and wetlands). Recommendations follow and are based on the observations. These include items such as obtaining state and local 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.

Some reports may contain pictures of observations that were of special concern or an airport map showing where certain species were observed and where habitat issues occur.





The WHAs are much more detailed reports and may include attachments that show trends in presence of certain species throughout the year, noting when and where they are at their highest population of the year. These types of observations can help an airport determine when certain wildlife issues may pose more or less of a risk to aviation operations.



Including the pending approval of the most recent CSA, the Division of Aviation has allocated approximately \$1.5 million toward Wildlife Hazard Management in North Carolina with 100% state funding.

The results of the on-going program are evident in the increased basic awareness of wildlife hazards at airports, the positive response to training, and regular requests for direct management provided by Wildlife Services to state airports. Some notable program accomplishments include:

- ✈ Conducted wildlife hazard site visits at all 62 of the state's General Aviation airports.
- ✈ Increased strike reporting from NC airports to the FAA National Wildlife Strike Database (82 strike reports in 2004 vs. 232 strike reports in 2012).
- ✈ Conducted one-year wildlife hazard assessments at all 10 Part 139 Certified airports.
- ✈ Provided a one-day wildlife hazard management course to over 600 airport personnel representing 26 airports throughout the state.
- ✈ Conducted 108 direct management projects (predominantly involving wildlife removal and harassment) at 24 different airports to address specific wildlife hazards. These projects included management of Canada geese, beaver, white-tailed deer, coyotes, mourning doves, black and turkey vultures, etc.
- ✈ Responded to over 300 requests for technical assistance with wildlife hazards at 62 different airports throughout the state.

Goals for the future include updates to wildlife hazard assessments, five-year renewals for wildlife hazard site visits, wildlife hazard assessments for select GA airports, increase in training, continual evolution of wildlife hazard awareness training classes, outreach and training for new airport staff, and coordination with state environmental permitting agencies to assist in the reduction of wildlife attractants at airports.



# APPENDIX D: NCDOT Division of Aviation Automated Weather Observing Systems (AWOS) Program

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**APPENDIX D**  
**NCDOT DIVISION OF AVIATION AUTOMATED WEATHER OBSERVING SYSTEMS**  
**(AWOS) PROGRAM**

NCDOT Division of Aviation Automated Weather Observing Systems (AWOS) Program  
January 5, 2016

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

1. Introduction

Weather is a critical factor for pilots to consider and is one of the primary contributing factors in general aviation 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 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 United States is the Automated Weather Observing System (AWOS). AWOS units are certified for aviation use by the FAA and are the most common automated weather systems in use throughout the state. AWOS units are typically owned and operated locally; however, the North Carolina Department of Transportation Division of Aviation (NCDOT DoA) owns and operates 26 AWOS units. NCDOT DoA maintains the equipment at these 26 units, plus an additional 16 AWOS units that are owned by airports (for a total of 42 AWOS units). One additional AWOS unit is owned, operated, and maintained by an airport. Furthermore, FAA owns, operates, and maintains 20 AWOS/ASOS units in North Carolina. In summary, there are a total of 63 automated weather systems in North Carolina. Air traffic control towers (ATCT) exist at 12 of these locations.

The intent of the NCDOT Division of Aviation is to continue to own and maintain its 26 AWOS units (as well as any future AWOS systems added 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. DoA'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.

2. Elements of the Program

NCDOT DoA's efforts within the AWOS Program are essentially comprised of four elements:

- A. Routine maintenance and repairs on existing AWOS units, whether owned by NCDOT DOA or by an airport/sponsor;
- B. AWOS National Airspace Data Interchange Network (NADIA) Data Collection Service;
- C. Installation of replacement AWOS units at existing AWOS locations; and
- D. Installation of new AWOS units.

### 3. NCDOT-DoA Responsibilities

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

#### A. Routine maintenance and repairs on AWOS units

For all AWOS units in the state, the NCDOT DoA will cause to be performed 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 150/5220-16D 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.

#### B. AWOS NADIN Data Collection Service

For all AWOS units in the state, the NCDOT DoA 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 DoA's approved contractor to WMSCR.

#### C. Installation of replacement AWOS units at existing AWOS locations

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

## D. Installation of new AWOS units

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

## 4. Airport/Sponsor Responsibilities and Requirements

The airport/sponsor will attend a Project Evaluation Meeting (and such follow-up discussions or meetings as required by NCDOT DoA) for replacement and/or installation of AWOS units. 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 DoA as an additional insured. The sponsor will provide a copy of the Declaration page to NCDOT DoA;
- Provide an acceptable and continuous source of electrical power and communications service to the AWOS site as specified by NCDOT DoA;
- Acquire all land necessary for the AWOS and its operation, either by purchase or lease;
- Maintenance of AWOS site in compliance with the siting requirements per FAA Order 6560.20b, 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 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 DoA (see Section 3. C. and D. above);
- Completion of the FAA Benefit-Cost Analysis documentation in accordance with FAA PGL 14-04;

- 
- 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 DoA and/or its contractor as salvageable;
  - Routine landscape maintenance of the AWOS site, such as mowing, tree trimming and cutting, and snow removal; and
  - Issue NOTAM's as required.

## 5. Eligibility Requirements

In addition to the qualifying factors outlined in Section 3 above, for an AWOS project to be considered by NCDOT DoA for this AWOS Program, the airport/sponsor must be part of the National Plan of Integrated Airport Systems (NPIAS).

## 6. Anticipated Program Outcome

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

## 7. 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 DoA will maintain all new AWOS units.

## 8. AWOS Project Evaluation Criteria

For a proposed AWOS project under Sections 3C and 3D above, NCDOT DoA, 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-Cost Analysis documentation in accordance with FAA PGL 14-04 (unless categorized by the FAA as exempt for filing a Benefit-Cost Analysis for an 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; and
  - Preliminary civil work by airport/sponsor to determine appropriate siting pursuant to FAA Order 6560.20b, or latest version, Siting Criteria for AWOS.

## 9. AWOS Project Request

Airport/sponsor and/or its designated representative shall make request to NCDOT DoA for the replacement or installation of new AWOS. Request shall be made in writing and shall address all items in Section 8 above. The NCDOT DoA shall periodically rank and select sites for replacement and/or installation of an AWOS. Once selected, the NCDOT DoA will schedule a Project Evaluation Meeting with the airport/sponsor at the AWOS site. During the initial and/or subsequent meeting, the parties shall make a determination of salvageable AWOS parts and/or any AWOS equipment that can be refurbished. In addition, the site preparation work required and such other construction-related items shall be determined. Obligations, costs, and responsibilities for the airport/sponsor and NCDOT DoA will be determined at that time.

## 10. AWOS Construction Period

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



## North Carolina Airports Program Guidance Handbook

# APPENDIX E: Airport Groupings

## APPENDIX E AIRPORT GROUPINGS

The following provides a listing of the airport groupings that are being used in the 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 – Commercial Service (11 airports)
- Red Group – Regional/Business Airport (15 airports)
- Blue Group – Community Airport with Business Aircraft Capability (26 airports)
- Green Group – Small Community Airport (20 airports)

**Updated 2014 Airport Groupings By 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
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
Sanford	Raleigh Exec Jetport at Sanford-Lee County	Red
Smithfield	Johnston County	Red
Statesville	Statesville Regional	Red
Winston-Salem	Smith Reynolds	Red

## Updated 2014 Airport Groupings By Grouping – Cont.

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

Updated 2014 Airport Groupings By Grouping – Cont.

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

Source: DoA and NCASP Team, 2014.

The map on the following page graphically depicts the 2014 airport groupings.

## Updated 2014 Airport Groupings



### LEGEND

- Yellow
- Red
- Blue
- Green
- National Park
- Service-Green

Source: NCASP, 2014.



## North Carolina Airports Program Guidance Handbook

# APPENDIX F: Funding Eligibility by Project

## **APPENDIX F**

### **ADP OBJECTIVE DEFINITIONS, DESCRIPTIONS, AND ELIGIBLE PROJECTS**

The following defines the Airport Development Plan (ADP) categories that are being used in the North Carolina Airport Development Plan (NC ADP) and the North Carolina State Airports System Plan (NCASP).

North Carolina Department of Transportation's (NCDOT) Division of Aviation (DOA) sets forth the following categories for airports that are eligible to be addressed by grant funds. The categories are listed in order of priority. In general, a project (#100) would be addressed before a project to extend the runway (#500). Additionally, each airport should have a current airport layout plan (ALP) (#050) that meets design standards depicts future projects.

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

## ADP Categories – Definitions and Descriptions

### 050. Airport Layout Plan (ALP)

YELLOW	RED	BLUE	GREEN
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Objective: A Federal Aviation Administration (FAA) approved airport layout plan (ALP) meeting current design standards as defined in the most current revision of FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*. ALPs should be evaluated at a minimum every 10 years (or as necessary if no changes to airport planned) to determine if they need to be updated to reflect new FAA design standards, new facilities, etc.

*Note: For a detailed description of the components of an ALP, see FAA AC 150/5070-6B, 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

YELLOW
--------

Objective: Airport must maintain clear, for all runway ends, the most restrictive threshold siting surface for each runway end as defined in FAA Order 8260.3B, *United States Standard for Terminal Instrument Procedures* (TERPS). The 20:1 visual area surfaces should be based on aircraft operations currently conducted to that runway and the established landing visibility minimums and types of instrumentation available for that runway.

RED	BLUE	GREEN
-----	------	-------

Objective: Airport must maintain clear, for the primary runway ends, the most restrictive threshold siting surface for each runway end as defined in FAA Order 8260.3B, *United States Standard for Terminal Instrument Procedures* (TERPS). The 20:1 visual area surfaces should be based on aircraft operations currently conducted to that runway and the established landing visibility minimums and types of instrumentation available for that runway.

The DOA will participate with Approach Obstruction Removal Projects for threshold siting surfaces as outlined above for the first three thousand (3,000) feet from the runway end.

*Notes: 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)

YELLOW	RED	BLUE	GREEN
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Objective: The Runway Safety Area (RSA) should meet the current requirements as listed in FAA AC 150/5300-13A, *Airport Design*, current revision, for the current Runway Design Code (RDC) or an approved Runway Safety Area Determination.

*Note: As the RDC for the airport increases, the RSA should be adjusted accordingly and meet the new dimensions as listed in FAA AC 150/5300-13A, 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 Protection 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 systems (EMAS).*

## 300. Runway Protection Zones (RPZ)

YELLOW	RED	BLUE	GREEN
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Objective: 100% fee simple control (preferable) or easements to meet the guidelines of the Runway Protection Zones (RPZs) as listed in FAA AC 150/5300-13A, *Airport Design*, current revision, for the current Visual or Standard Instrument Approach Procedure (SIAP). Priority should be given to obtaining controlling interest of the central portion of the RPZ.

*Note: 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 Protection 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

The Division of 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.

YELLOW	RED	BLUE	GREEN
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Objective: All primary pavement sections, as defined in the North Carolina Pavement Management System (PMS), should have a PCI greater than 75. Pavement sections with a PCI of 74 or below or a five-year predicted PCI of 74 or below is eligible.

### Pavement Projects

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.

**Table 1** presents the general pavement condition guidelines based on PCI. DOA will determine, on a case-by-case basis, the pavement repair method employed based on these guidelines for existing public runways, taxiways, and apron areas.

**Table 1: General Pavement Condition Guidelines**

PCI	Maintenance Method	Comments
< 55 or Five-year predicted <55	Repair and rehabilitation of pavement section (partial and full depth patching, overlay, and surface treatments).	Repair or rehabilitation will be based on, but not limited to, pavement use, existing pavement distresses, age of pavement, and costs of repair/rehab options.
75 ≤ 55	Preventative Maintenance (includes crack and joint sealing, surface treatments, and sealcoats).	Preventative maintenance will be based on, but not limited to, pavement use, existing pavement distresses, age of pavement, and costs of maintenance options.
≥75	No action necessary.	In some cases, minor preventative maintenance may be performed.

*Source: NC DOA*

*Note: 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 and Width

### YELLOW

Runway Length Objective: 6,500 feet paved  
Runway Width Objective: 150 feet paved

### RED

Runway Length Objective: 6,000 feet paved  
Runway Width Objective: 100 feet paved

### BLUE

Runway Length Objective: 5,000 feet paved  
Runway Width Objective: 100 feet paved

### GREEN

Runway Length Objective: 4,200 feet paved  
Runway Width Objective: 75 feet paved

*Note: 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

### YELLOW

Objective: Per PCN Analysis

### RED

Objective: Greater than 60,000lbs SW or DW or Per PCN Analysis if the airport has a Part 139 certificate

### BLUE

Objective: Greater than 30,000lbs SW or DW and less than 60,000lbs SW or DW or Per PCN Analysis if the airport has a Part 139 certificate

### GREEN

Objective: Up to 30,000lbs SW or DW and greater than 12,500lbs SW or DW

*Note: 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.*

## 700. Visual Navigational Aids

### YELLOW

### RED

Objective: Rotating Beacon  
Lighted Windsock with Segmented Circle  
Four Box Precision Approach Path Indicator (PAPI) Lights on both ends of Primary Runway

### BLUE

Objective: Rotating Beacon  
Lighted Windsock with Segmented Circle  
Four Box Precision Approach Path Indicator (PAPI) Lights on both ends of Primary Runway

Optional: Runway End Identifier Lights (REIL) on runway ends with a SIAP if no Approach Lighting System (ALS)

### GREEN

Objective: Rotating Beacon  
Lighted Windsock with Segmented Circle  
Two Box Precision Approach Path Indicator (PAPI) Lights on both ends of Primary Runway

Optional: Runway End Identifier Lights (REIL) on runway ends with a SIAP if no Approach Lighting System (ALS)

## 800. Runway Edge Lighting

### **YELLOW**

Objective: High Intensity Runway Lights for Primary Runway

### **RED**

### **BLUE**

### **GREEN**

Objective: Medium Intensity Runway Lights

## 900. Weather Reporting Capability

### **YELLOW**

Objective: Continuous certified and automated weather reporting to include precipitation, ceiling, and visibility (AWOS-IIIP or better)

### **RED**

### **BLUE**

### **GREEN**

Objective: Continuous certified and automated weather reporting to include ceiling and visibility (AWOS-III or better)

## 1000. Standard Instrument Approach Procedures (SIAP)

### **YELLOW**

Objective: Precision Approach (PA) – Less than 250 feet and less than  $\frac{3}{4}$  mile visibility

### **RED**

Objective: Instrument Approach w/Vertical Guidance (AVP) – 250 feet and  $\frac{3}{4}$  mile visibility

### **BLUE**

Objective: AVP – 250 feet and  $\frac{3}{4}$  mile visibility

### **GREEN**

Objective: AVP – 400 feet and 1-mile visibility

*Note: For airports with a Standard Instrument Approach Procedure (SIAP), FAA Order 8260.3, "Terminal Instrument Procedures," (TERPS) current revision approach surfaces should be maintained clear for the lowest published minimum approach.*

## 1100. Taxiway Requirements

<b>YELLOW</b>	<b>RED</b>	<b>BLUE</b>	<b>GREEN</b>
---------------	------------	-------------	--------------

Objective: Full parallel taxiway meeting FAA approach and design standards

*Note: FAA AC 150/5300-13A, Change 1, 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.*

## 1200. Aircraft Apron Requirements

<b>YELLOW</b>
---------------

Objective: Apron spaces to accommodate 20% of Based Aircraft + 20% of Busy Day Transient General Aviation Aircraft

<b>RED</b>	<b>BLUE</b>
------------	-------------

Objective: Apron spaces to accommodate 25% of Based Aircraft + 20% of Busy Day Transient General Aviation Aircraft

<b>GREEN</b>
--------------

Objective: Apron spaces to accommodate 50% of Based Aircraft + 20% of Busy Day Transient General Aviation Aircraft

*Note: Spacing between aircraft and for taxilanes should meet FAA guidelines as defined in the most current FAA AC 150/5300-13A, Airport Design. Pavement strength for the parking area should match the pavement strength of the runway.*

## 1300. General Aviation Terminal Building

<b>YELLOW</b>
---------------

Objective: Commercial Passenger Terminal Buildings are not eligible. General Aviation Terminal Buildings are per Airport Master Plan.

<b>RED</b>
------------

Objective: 5,500 square foot General Aviation Terminal/Administration Buildings with a Fixed Based Operator (FBO). Buildings should include public meeting area and restrooms at a minimum. Adequate auto parking (1 auto space per based aircraft + 50% for visitors/employees) should be provided.

<b>BLUE</b>
-------------

Objective: 4,500 square foot General Aviation Terminal/Administration Buildings with a Fixed Based Operator (FBO). Buildings should include public meeting area and restrooms at a minimum. Adequate auto parking (1 auto space per based aircraft + 50% for visitors/employees) should be provided.

<b>GREEN</b>
--------------

**Objective:** 3,200 square foot General Aviation Terminal/Administration Buildings with a Fixed Based Operator (FBO). Buildings should include public meeting area and restrooms at a minimum. Adequate auto parking (1 auto space per based aircraft + 20% for visitors/employees) should be provided.

*Notes:*

1. Building may include general office space, a lobby area, and a pilot's lounge.
2. 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.
3. 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.

## 1400. Taxiway and Apron Edge Lighting



**Objective:** Medium Intensity Taxiway Lights



**Objective:** Reflective markers

## 1500. Airfield Signage:



**Objective:** Runway holding position, location, guidance, and distance remaining signs



**Objective:** Runway holding position, location, and guidance signs

## 1600. Ground Communication



**Objective:** UNICOM, and a Remote Communication Outlet (RCO) or Ground Communication Outlet (GCO)

## 1700. Approach Lighting

YELLOW	RED	BLUE	GREEN
--------	-----	------	-------

Objective: Approach Light System (ALS)

*Note: Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR), Omni Directional Approach Lighting System (ODALS) or other ALS systems will be considered.*

## 1800. Aircraft Rescue & Fire Fighting (ARFF) Equipment

YELLOW
--------

Objective: Equipment as required by the level of FAR Part 139 certification

RED	BLUE	GREEN
-----	------	-------

Objective: Equipment as required by the level of FAR Part 139 certification

The DOA 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 DOA that adequate annual training for the equipment use and aviation firefighting techniques occur at a FAA approved school/course.

## 1900. Hangars

YELLOW
--------

Aircraft storage buildings are not eligible under this group

RED	BLUE
-----	------

Objective: Storage for 75% of based aircraft

GREEN
-------

Objective: Storage for 50% of based aircraft

*Note: 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.*

## 2000. Airfield Maintenance Equipment & Storage Building

YELLOW
--------

Airfield maintenance equipment and storage buildings are not eligible under this group

RED	BLUE	GREEN
-----	------	-------

Objective: Airfield maintenance equipment (approved tractor and attachments) and an approved building to store equipment

*Note: Requests are considered every ten years.*

## 2100. Perimeter Fencing

### YELLOW

Perimeter fencing is not eligible under this group.

### RED

### BLUE

### GREEN

Objective: Full perimeter fencing a minimum height of 8 feet tall to deter wildlife

## 2200. Aircraft Fuel Facilities

### YELLOW

Aircraft fuel facilities are not eligible under this group.

### RED

### BLUE

### GREEN

Objective: Based on demand

*Note: 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.*



## **Eligible Projects**

This section 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 the DOA for further guidance on the eligibility of the specific work element contemplated.

### **Planning & Design Project Elements:**

#### **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 both land use and height, etc.
- 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

*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 Advisory Circular 150/5300-13A, *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:

*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 Division of 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.*

*Unless otherwise approved by the Division of Aviation, boundaries of land acquired with state funds will be limited to that necessary to comply with the airport design requirements of FAA Advisory Circular 150/5300-13 for items such as RSA, OFA, 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 DOA. Due to issues experienced with avigation easements, it is recommended that:*

- *The Runway Protection Zone (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 Division of Aviation at the time of their sale.*

## Clearing and Grubbing:

### Typical Eligible Items

- First time clearing and grubbing required to provide for the construction of eligible facilities and surfaces including necessary seeding, mulching, turfing, and required erosion and control measure.

### Typical Ineligible Items

- Recurrent clearing and grubbing of areas previously cleared with state/federal assistance.
- Clearing and grubbing for the sole purpose of construction of an area or facility that is not eligible for state assistance.

#### Notes:

*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, the airport Sponsor should be prepared to implement a continual program of maintenance of the cleared area to prevent the regrowth of obstructions.*

## 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:

*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
- Paving of individual access taxiways or aprons in front of individual hangars not providing service to the general public
- Paving inside hangars or areas upon which hangars are to be placed
- Paving of access roads not available to the general public
- Marking of any pavement which is not eligible for state assistance
- Routine maintenance or repair of portions of pavements that are not part of a nonrecurring maintenance program

### Notes:

*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 Division of 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:

*If lighting systems are not lit continuously, Sponsors are encouraged to provide radio control of visual aids 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
- Automated Weather Observation Systems (AWOS) and Automated Surface Observation Systems (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 checks 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 Federal Aviation Administration and the Federal Communications Commission
- Recurring operations, maintenance, spare or replacement parts, and repair of navaids, except AWOS
- Utilities

#### Notes:

*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 navaid.*

*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 navigational aids 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 directly 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 Division of 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:

*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 Division of 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 not included in the terminal building cost.*



*Each general aviation terminal constructed with state assistance will be required to include a conference room open to the general public, restrooms, an 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 general aviation airports the DOA 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 DOA that adequate annual training for the equipment use 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 Division 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:*

*Airport Sponsors are encouraged to develop jointly with appropriate local fire and emergency services agencies an emergency response plan. 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 where 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 directly 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:

*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 Department of Transportation.*

*Eligible administrative expenses are those allowed under the provision of Federal Aviation Administration.*

*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 G: Project Priority Rating System

## APPENDIX G

### PROJECT PRIORITY RATING SYSTEM

Throughout the year, airport project requests are submitted for funding in Partner Connect, NCDOT's grant system. DoA prioritizes the projects utilizing a priority rating system or a point system methodology. All priority assignments shall be made by NCDOT staff.

#### Numerical Priority Descriptions

NC DoA'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 G: ADP Objective Definitions, Descriptions, and Eligible Projects of the North Carolina Airport Development Plans and Policies (NCADPP) Guide.

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. Removal / Runway Threshold Displacement / Relocation  
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 (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
  - 500. RUNWAY**
    - 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. Clearing / Grading / Drainage / Paving / Marking / Lighting
      - Friction Surface Treating / Signage / Navaid Relocation
      - 535. Taxiway Extension
    - Runway Widening**
      - 540. Widening
  - 600. PAVEMENT STRENGTH**
    - 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
    - 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
-

740. Upgrade

**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. Approach Clearing & Field Survey
- 1020. Site development
- 1025. Install Precision Approach
- 1030. Install Instrument Approach with Vertical Guidance (AVP)
- 1035. Replace / Relocate Existing Approach
- 1040. Install Approach lighting

**1100. TAXIWAY**

**Construction (Parallel, Connector and Turnarounds)**

- 1105. Environmental Assessment (EA)
- 1110. Design
- 1115. Land Acquisition
- 1120. Permitting/mitigation / Preliminary Engineering
- 1125. Clearing / Grading / Drainage / Paving / Marking / Lighting / Signage

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

- 1205. Environmental Assessment (EA)
- 1210. Design
- 1215. Land Acquisition
- 1220. Permitting/mitigation / Preliminary Engineering
- 1225. Clearing / Grading / Drainage / Paving / Marking / Edge Lighting / Signage
- 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

- 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
- 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. Build aircraft storage buildings
- 2000. AIRFIELD MAINTENANCE EQUIPMENT & STORAGE BUILDING**
  - 2005. Acquire / replace tractor and approved attachments
  - 2010. Acquire equipment shelter (no utilities provided)
- 2100. PERIMETER FENCING**
  - 2105. Install wildlife/perimeter fencing to prevent hazardous conditions
- 2200. FUEL FACILITIES**
  - 2205. Install fuel facility

## 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 staff, on a case-by-case basis, may adjust the priority. This adjustment will take into account 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?

## **Project Combination**

To be eligible for combination, projects shall be functionally linked. Priority of the combination will be the highest priority of the combined projects. All combination of projects shall be approved by NCDOT. Sponsors are encouraged to submit individual project requests. When project requests are already combined when received, NCDOT staff will review and separate projects if necessary.

## **Land Acquisition**

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

## **Emergency Policy**

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



## North Carolina Airports Program Guidance Handbook

# Appendix H: Important Resources and Links for Airports

## IMPORTANT RESOURCES AND LINKS FOR AIRPORTS

### DOA CHECKLISTS AND FORMS

Website contains the following:

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

### DOA IMPORTANT LINKS

[North Carolina Department of Transportation Division of Aviation Homepage](#)

[Employee Directory](#)

[North Carolina Airport Guide](#)

[Airport Project Managers Assignment Map](#)

### 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 150/5300-13A, 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.

**State Transportation Investments (STI)**: The funding formula for NCDOT's capital expenditures.

## AVIATION ORGANIZATIONS

**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 general aviation.

**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.

## OTHER

**North Carolina Department of Environment and Natural Resources (NCDENR)**: charged with maintaining environmental permits, licensing, and requirements, including those that impact airports such as the storm water management program.