



## **SECTION 1 - INTRODUCTION**

### I.1 STUDY PURPOSE

The Dare County Airport Authority initiated an Airport Master Plan (AMP) Update to assess the future role and facility needs of the Dare County Regional Airport, North Carolina. Overall, this Study provides direction regarding the Airport's 20-year development plan, per the Airport Authority and County vision.

### I.2 STUDY BACKGROUND

The previous 1989 *Dare County Regional Airport Master Plan (AMP)* and *Airport Layout Plan (ALP)* drawings are outdated, containing recommendations based on data and mapping over 15-years old. Since then, many factors have changed, including general aviation industry trends, FAA/NCDOA airport geometrics and airspace criteria.

### I.3 STUDY NEED

The Airport Authority and NCDOA agree that an Airport Master Plan Update is necessary to provide up-to-date information in order to re-assess short and long-term Airport improvements. This involves documenting Airport demands, developing a preferred growth option, identifying future property interests, along with project priorities, schedules and costs.

Furthermore, the NCDOA has implemented the 2004 *North Carolina Airport Development Plan (NCADP)*, which establishes 'minimum' and 'recommended' improvements tiered to a statewide classification for general aviation airports. The NCDOA has identified the Dare County Regional Airport as a 'red group' facility, the highest service-level category.

### I.4 SCOPE OF STUDY

The AMP Update evaluates development needs with respect to the Airport's demand for facilities, federal and state airport planning criteria, and future land acquisition needs. These improvements are a circumstance of growing activity at Dare County, and the capability to accommodate a larger segment of the general aviation business-class fleet. It is important that future space allocation and Airport property interests be properly identified, as demand warrants and/or funding is available.

The updated AMP, as adopted by Dare County and acceptable to the NCDOT, Division of Aviation (NCDOA) and Federal Aviation Administration (FAA), enables the Airport to apply for improvements eligible under the federal and state airport-aid-programs. These improvements concepts must be shown on the Airport Layout Plan (ALP) drawings.



### 1.5 STUDY OBJECTIVES

From discussions with Airport/County officials and the NCDOA, the major planning issues to be addressed as part of this Dare County Regional Airport Master Plan Update are:

- *Assess the Airport's existing and future operational role and service-level.*
- *Identify the condition of existing Airport facilities and equipment.*
- *Assess design-related compliance issues, per current FAA/NCDOA standards.*
- *Describe on and off-airport land uses, and local compatibility and regulatory issues.*
- *Quantify existing Airport activity, trends and potential – with respect to regional socio-economic patterns and the status of the aviation industry.*
- *Project future Airport user demands and aircraft operational activity levels, including the potential for scheduled commercial air service.*
- *Identify runway lengths to accommodate the future critical/design aircraft performances; for general aviation and/or commercial service aircraft.*
- *Identify taxiway improvements.*
- *Investigate upgrades/improvements to runway instrument approach procedures and radar capabilities; contact FAA and DOD regarding status and changes to airspace procedures and architecture within the Airport's area of influence.*
- *Recommend 'unconstrained' airfield and terminal area facility requirements based on forecasted user demand for 5, 10 and 20-year planning periods, using current airport planning guidance and standards.*
- *Compare 'unconstrained' facility requirements, those required by the natural market demand, to NCDOT, Airport Development Plan (NCADP) criteria for 'red' code airports, as referenced against the 'minimum' NCADP runway length of 5,000'.*
- *Conduct alternatives for airfield and terminal area development using 'level of service' constraints decided by the Airport Authority. Evaluate imposed constraints against the "unconstrained" forecasts and recommended airfield facility requirements by means of level of service factors, to consider such options as commercial air service, general aviation versus commercial service runway length(s) requirements, precision approach capabilities, NAVAID relocation, land interests, etc. Quantify the Airport's operational, economic and/or social implications of the*



- alternatives between 'constrained' versus 'unconstrained'. From this, identify a preferred, or unified, course of action for airfield and terminal area development.*
- *Prepare a terminal plan(s), including expansion and re-development options, and concepts for the boundary to be reserved for future terminal area development.*
  - *Develop a priority of planned Airport improvement projects (airfield, terminal area, navigational aids, land acquisition, non-capital projects) for 5, 10 and 20-year periods, for the preferred development option.*
  - *Identify potential new replacement airport site(s) within Dare County.*
  - *Develop estimated project costs for preferred development option.*
  - *Provide an expectation of future Airport revenues and expenses based on planned facilities, and rates and charges recommendations.*
  - *Update the Dare County Regional Airport Layout Plan (ALP) drawing set based on the preferred development option, and in accordance with current NCDOA/FAA planning standards.*
  - *Provide electronic ALP drawings to be used for possible integration into Dare County GIS system, for future land use considerations.*
  - *Provide recommendations on public relations strategy for 'good neighbor' status.*

Above all, the study follows federal and state policy in providing for a facility that is:

- *Safe and in accordance with NCDOA / FAA design standards*
- *Economically viable and substantially user-supported*
- *In accordance with broad local, regional, state and national planning goals*

### 1.6 STUDY APPROACH

Overall, the AMP Update provides concise documentation quantifying future Airport needs, and the resolution of key planning issues. Although an 'update', this study is comprehensive in evaluating the needs of the airfield, terminal area/landside and ground access components over a 20-year planning period.



The following is an outline and description of the major AMP Update section:

- Section 1**      **Introduction:** Study background and approach.
  
- Section 2**      **Inventory:** Airfield inventory, operational conditions, compliance issues, baseline airport activity, and service area characteristics.
  
- Section 3**      **Forecast of Aviation Demand / Critical Aircraft:** Based aircraft and annual operations by type of aircraft, instrument operations and aircraft peaking characteristics, traffic mix and critical aircraft category.
  
- Section 4**      **Facility Requirements:** Recommended airfield and terminal area facility needs, space allocation, airport geometric considerations, and future airport property interests.
  
- Section 5**      **Development Alternatives:** Identifies facility location and layout options. Following a review of layout options, a preferred development concept is formulated for the airfield and terminal area.
  
- Section 6**      **Phased Airport Development Plan / Project Costs:** Involves developing a detailed project list to meet the facility requirements, including project priorities, a phased implementation schedule, and estimated project costs based on anticipated federal, state and local funding participation.
  
- Section 7**      **Airport Layout Plan (ALP) Update:** Graphically depicts the preferred Airport development concept, showing existing and planned facilities and land uses. The set of ALP drawing are prepared in accordance with North Carolina Division of Aviation (NCDOA) policy standards and consistent with current Federal Aviation Administration (FAA) design standards and airspace criteria.

As decided by the Airport Authority, this study has been structured to include 'add alternate' tasks to concentrate on select planning efforts deemed essential to the initial goals and objective of the base AMP Update. This provides additional flexibility in addressing decisive issues. The 'add alternate' tasks include:

- Add Alternate AA1      Precision Instrument Capabilities
- Add Alternate AA2      Constrained Runway Alternative
- Add Alternate AA3      Airport Site Selection Analysis
- Add Alternate AA4      Airport Layout Plan (ALP) Mapping
- Add Alternate AA5      Airport Economic Significance

END OF SECTION #1