



## 1. Introduction

### 1.1 Study Process

In 2018, the Alabama Department of Transportation (ALDOT) Aeronautics Bureau embarked on an effort to update Alabama's Statewide Airport System Plan (AL SASP or the system plan) as well as the associated Alabama Statewide Airport Economic Impact Study and the Alabama Statewide Airport Pavement Management Program. The AL SASP was last published in 2004 and since that time, the state has experienced significant economic development, employment and population growth, and there have been substantial changes in the aviation industry. Examples of industry changes include the rapid growth of business class jet aircraft, a decline in the number of operational single-engine general aviation aircraft, continued consolidation of the mainline commercial airline carriers, a progressive migration of commercial carriers to flying higher seat capacity aircraft, among many others. Changes in aviation-related technologies have also enabled many additional airports in Alabama to significantly improve their accessibility by establishing non-precision instrument approach using Global Satellite Positioning (GPS) equipment. This update to the ASASP reflects changes in the state that have taken place since the last system plan was published, while also considering the continued evolution of the aviation industry.

A robust study process was developed that followed Federal Aviation Association (FAA) guidance on system planning as presented in FAA Advisory Circular (AC) 150/5070-7, *The Airport System Planning Process*. The key elements of this two-year study are highlighted and summarized below:

- **Airport Inventory:** The first step in evaluating an airport system is to assess existing conditions. Data was collected for 80 study airports through an extensive outreach effort that included site visits, online surveys, and numerous phone calls and meetings with key airport stakeholders. Data was also collected from other sources including the ALDOT Aeronautics Bureau, the FAA, the Alabama Department of Commerce, among others. The system plan's inventory chapter provides information on current facilities, services, and activity.
- **Projections of Demand:** Most recommendations for airports included in the state airport system are based on the airport's assigned role, but some are based on projected levels of future aviation activity. As part of the ASASP, 20-year projections of aviation demand were developed for based general aviation aircraft and general aviation operations. This effort also included a review of industry trends and provides projections for key components of aviation activity in Alabama. In the future, these forecasts can also be used to crosscheck if individual airport master plan forecasts are reasonable.
- **System Evaluation:** To determine if Alabama's airports are providing residents and businesses with adequate coverage of critical aviation services, an evaluation of system performance was conducted. By identifying system adequacies and deficiencies, the ALDOT Aeronautics Bureau can develop a recommended plan to help shape a viable and balanced system of airports. To accomplish this evaluation, a series of drive-time performance measures were prepared using a geographic information system (GIS) mapping tool. This effort also included an examination of Alabama's most important economic development trends as well as an analysis of the location of its current industry clusters in relation to system airports. This was conducted to help ascertain how well the system was servicing growing sectors in the statewide economy. Additional mapping analyses were also undertaken to determine current accessibility ratings for each of the performance measures.
- **Airport Roles:** Every airport in the Alabama system plays an important role in the functionality and capacity of that system. One of the primary goals of the ALDOT Aeronautics Bureau is to ensure Alabama has a balanced and viable system of public airports to serve its population. Assigning a role to each airport helps to achieve this goal since roles can be used to direct targeted investment and

identify projects that are essential to the system. Based on discussions with the ALDOT Aeronautics Bureau, it was determined that the previous five airport role categories continued to be appropriate and should be maintained. Airport roles are based on factors such as facilities, activity, services, and market area characteristics. As part of this task, 30-minute accessibility to any airport was examined to determine if there is a need to bring additional airports to the system or to establish new system airports. Recommended changes to the current system were made in accordance with the findings from these reviews. Additionally, an assessment of the entire Alabama airport system was conducted to assess each airport's relative sustainability and long-term strength, which included identifying any airports that may be potentially susceptible or "at risk" with respect to potential key airport closure indicators.

- **Airport Facility Analysis/Future Performance:** Airports in each of the five roles have target facility and service objectives designed to enable airports to best fulfill their assigned role in the state airport system; these objectives are considered the minimum to which each airport should be developed to enable the airport to meet its assigned level in the state airport system. Existing facilities/services at each airport were compared to the airport's respective objectives to identify needed improvements. System performance, both statewide and by airport level for all objectives, has been summarized graphically as part of this step in the planning process, and any actions needed at each airport to bring the system into full compliance with all objectives were identified. The results of this evaluation are used to establish a report card for each airport that is designed to identify projects and associated costs required to improve the system so that Alabama airports are 100 percent compliant with all development objectives.
- **Recommended Plan:** The final chapter of the system plan provides the complete listing of the system and airport recommendations to advance the Alabama airport system in support of the ALDOT Aeronautics Bureau's goals, objectives, and mission. These include system improvements to support economic development across the state, to enhance accessibility to Alabama for business class aircraft, to continue to develop the system to match current and future demands, as well as to consider how the system could evolve and potentially consolidate over time.

Additionally, the chapter identifies costs to improve the system to meet all airport objectives established by the system plan. Statewide costs have been summarized in total by airport role and by type of project. Current Airport Capital Improvement Plans (ACIPs) for each airport were compared to AL SASP recommendations to determine if any airports have projects planned that will enable them to resolve any noted deficiencies. Additionally, as part of the overall system planning effort, the ALDOT Aeronautics Bureau also conducted a Statewide Airport Pavement Management Plan (PMP) study; this study identifies needed pavement maintenance and improvement projects for 59 of its 80 study airports. As part of the recommended plan, projects from the AL SASP, the PMP, and the ACIPs were reviewed in an attempt to identify and remove any duplicate projects to avoid double-counting financial requirements for the airport system. The recommended plan identified potential average annual funding needs for Alabama airports from 2021 to 2030. (Note that these estimates do not include costs associated with most projects at commercial service airports that are not funded through the ACIP Program.)



## 1.2 Study Goals and Objectives

The overall purpose of the AL SASP and its associated statewide planning efforts is to produce information, tools, and processes that will help the airport system meet the needs of Alabama’s flying public and statewide economic development objectives in an efficient and effective manner.

The three major elements of this overarching statewide airport planning effort include the following:

- The Alabama Statewide Airport System Plan
- The Alabama Statewide Airport Economic Impact Study
- The Alabama Statewide Airport Pavement Management Program

These three elements have been completed in a manner such that the results of each support and complement the other planning efforts. Note that while these have been produced in association with each other, each has been produced as a standalone document.

### A. Primary Goals and Objectives

Collectively, these statewide planning efforts have three primary goals and objectives to meet the overall purpose:

- A1. Define the System: To define Alabama’s airport system to effectively and efficiently meet the State’s economic and physical needs
- A2. Identify/Implement Funding: To identify the overall funding requirements to meet the needs of this system and to initiate practical steps for implementing and prioritizing funding of those improvements that will not only provide the greatest benefit for the airport system, but also promote its long-term efficiency and sustainability
- A3. Identify Economic Benefits: To identify the economic impact of Alabama’s airports and the benefits of incremental investment in the airport system.

### B. Supporting Goals and Objectives

The overall planning effort has 18 supporting goals to meet the primary goals and overall purpose:

- B1. Develop an airport system that enhances economic development in the State of Alabama
- B2. Provide an airport system that efficiently serves the aviation demands of the State for the movement of passengers and goods
- B3. Determine the facility needs and associated costs of the State’s airport system to meet expected future demands
- B4. To increase awareness of the role of aviation in Alabama’s transportation system and promote a better understanding of the importance and economic value of Alabama’s airports
- B5. To develop a plan that will provide all users of the airport system with a practical management tool and assist in the systematic improvement of Alabama’s airports

- B6. To demonstrate the economic value of airports to their communities and the State by demonstrating their monetary benefits, and how Alabama airports can be improved to enhance economic development opportunities
- B7. To evaluate the relative sustainability of airports within the airport system and contingency plan for future potential changes
- B8. To promote airports and educate local communities on the economic and transportation benefits that are produced through the operation of the local airports
- B9. To evaluate and document current airport facilities and activities
- B10. To determine the role of each airport within the State airport system
- B11. To identify deficiencies in the airport system and recommend solutions to such deficiencies
- B12. To provide facility needs required for the current and future successes of the airport system
- B13. To prepare a financially feasible and sustainable systemwide capital improvement plan (CIP)
- B14. To examine the ability of existing funding processes to support and enhance transportation goals and develop recommendations required for the improvement plan
- B15. To recommend a system for prioritizing projects for air transportation funding, using economic impact and other appropriate criteria to evaluate development projects
- B16. To devise a strategic plan that provides a vision for Alabama aviation and a direction for achieving this vision
- B17. To prepare documentation regarding study findings and recommendations suitable for consideration
- B18. To ensure support and participation of individuals and organizations having transportation responsibilities or policy-making authority

### **C. Steps to Meet Goals and Objectives**

Steps that were undertaken as part of or in affiliation with the AL SASP to meet these goals include the following:

- C1. Conduct a comprehensive inventory of 80 publicly-owned, public-use system airports
- C2. Analyze general aviation, air carrier, and air cargo trends and identify local and socioeconomic factors that could affect aviation development
- C3. Evaluate the roles of the airports in the system
- C4. Prepare forecasts of future aviation activity
- C5. Compare projected aviation demand with the capacity of the aviation system
- C6. Analyze the aviation system and determine development needs to serve the anticipated demand throughout the planning period



- C7. Provide alternatives for an essential airport system capable of meeting air transportation needs based upon growth strategies and economic development objectives
- C8. Identify financial requirements and timing for implementation of recommended improvements
- C9. Develop a systemwide capital improvement plan (CIP)
- C10. Analyze the airport system to ascertain its health, efficiency, and sustainability.
- C11. Conduct a statewide economic impact study that quantifies the economic impacts of individual airports in terms of jobs and dollars, and the total economic impact of all system airports combined in Alabama
- C12. Conduct a statewide pavement management program study to provide an integrated framework to enable comprehensive evaluation and decision-making for managing airfield pavements.

## D. Assessment Categories

To evaluate and understand the performance of the State's airport system in recognition of the overall goals and objectives, five assessment categories were developed. These five categories are as follows:

D1. Accessibility: An appropriate airport system can be measured by the accessibility that it provides to system users; accessibility is most often measured by drive times. The airport system's accessibility can be measured in terms of providing access to population centers and businesses throughout the State.

D2. Facilities: A considerable amount of local, private, State, and Federal investment has been made in Alabama's airport facilities. These facilities should be evaluated to assess their ability to meet current and projected needs, as well as the costs required to maintain and enhance those facilities. An appropriate airport system should have existing or planned facilities designed to meet demand levels and to satisfy standards established by the FAA and the State.

D3. Economics: It is widely understood that airports are not just transportation assets; they can contribute significantly to the economic vitality of the communities they serve. Airports are a critical part of a community's infrastructure and help to promote economic development. Additionally, airports directly serve as economic generators in that the businesses located on airports employ Alabama residents and purchase supplies from Alabama businesses. An appropriate airport system should provide sufficient facilities and services to support business needs to maximize the economic contributions made by airports.

D4. Activity: Aviation activities throughout Alabama include commercial airline service, corporate aviation, medical evacuation, recreational flying, military operations, among many others. Different types of activities also mean a wide range of the level of activity or operations that occur at the airports. An appropriate airport system should provide facilities to accommodate the various activities and needs of its airport users.

D5. Development and Optimization: Airports often need to provide additional facilities to meet growing demand, to serve larger aircraft, and/or to meet their functional role in the statewide airport system. An appropriate airport system should include airports with the capability to provide additional airside and/or landside facilities. Additionally, the airport system must always strive to function in an efficient and effective manner; this includes adapting to meet the evolving demand levels and locales associated with Alabama's state, regional, and local needs.

### 1.3 Summary

The information summarized in this chapter sets the stage for subsequent analyses. With the study's purpose clearly defined, the analyses are focused to ensure that the study's findings meet these objectives for a clear definition of Alabama's airport system needs and development recommendations.