

INTRODUCTION TO AIRPORT MASTER PLANS



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CHAPTER TWO

INTRODUCTION

An airport master plan is the process of establishing an airport's blueprint for long-term development. It is a comprehensive study of the airport to determine an effective plan for future airport development. It helps to ensure the airport will be able to continue to meet the needs of its customers and that development is consistent with local, state, and national planning goals. This includes identifying potential environmental and socioeconomic impacts of airport development projects. An airport master plan is an important step in helping the airport be financially and socially responsible and operate as efficiently as possible.

Airports should update their long-term planning documents every five to ten years in order to identify and respond to emerging national, statewide, and local trends expected to affect the airport. The last master plan for Idaho Falls Regional Airport (IDA) was completed in 2010 and had a base year of 2008. This airport master plan study is being undertaken to evaluate and document the airport's current capabilities and facilities, identify its role in both the national and state aviation systems, and to develop a forecast of aviation demand in order to plan for the timely development of improved or new facilities that may be required to meet that demand. This airport master plan is intended to be a proactive document that also provides guidance for funding future development projects.



2.1. Federal Aviation Administration Role in Airport Master Plans

Federal Aviation Administration (FAA) Advisory Circular 150/5070-6B, *Airport Master Plans*, provides guidance for the preparation of airport master plans. The intent of this guidance is to provide planning requirements for airports ranging in size and function from small general aviation to large commercial service facilities. This guidance also allows for each master plan to be customized to meet the specific needs of the airport and the surrounding community.

While the FAA does review all elements of an airport master plan to ensure that sound planning techniques have been applied, it only approves the forecast and the airport layout plan. FAA approval is required for these elements because the agency uses them to help determine the airport's eligibility for grant funding of proposed development. Additionally, the FAA Helena Airports District Office (ADO) project manager will interact with the planning team throughout the master planning process and will provide the planning team with additional direction and guidance as needed.¹

2.1.1. National Plan of Integrated Airport Systems

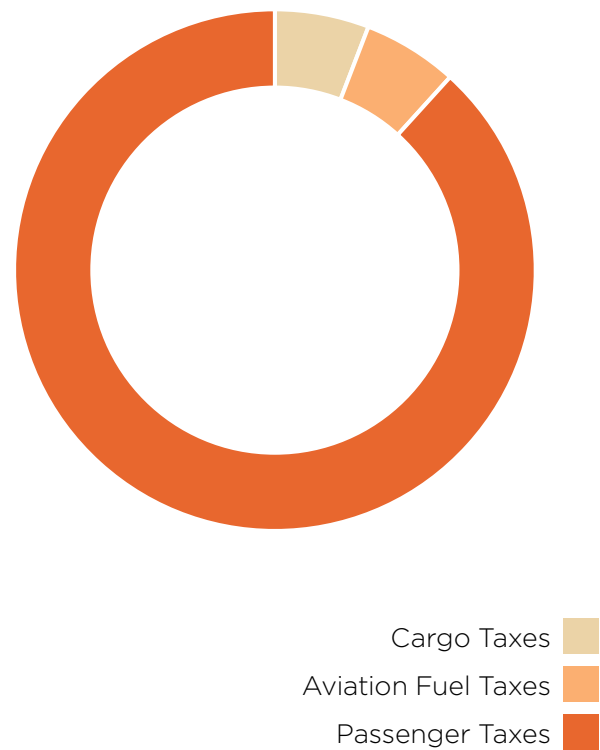
The National Plan of Integrated Airport Systems (NPIAS) identifies the nearly 3,300 public-use airports included in the national airport system, the roles they currently serve, and the amounts and types of airport development eligible for federal funding under the Airport Improvement Program.² The National Plan of Integrated Airport Systems and the airport's role in the national aviation system are discussed in more detail in [Chapter 3](#).

2.1.2. Airport Improvement Program

The Airport Improvement Program (AIP) is administered by the FAA to provide grants to public agencies for the planning and development of public-use airports included in the NPIAS. For nonhub primary airports, like IDA, these grants typically cover between 90-95% of eligible costs for planning and development projects. To be eligible, projects must be related to enhancing airport safety, capacity, security, or environmental concerns. These typically include airfield construction and rehabilitation, airfield lighting and signage, navigational aids, and land acquisition as well as planning and environmental studies. Certain professional services that are necessary for eligible projects, such as planning, surveying, and design, can also be eligible.³

The Airport Improvement Program is funded by the Airport and Airway Trust Fund (AATF). As shown in [Figure 2.1](#), the AATF is supported by taxes on ticket sales, taxes on air cargo and airmail, and taxes on aircraft fuel.⁴ The preparation of the 2022 Airport Master Plan has been paid for through an Airport Improvement Program grant.

Figure 2.1: Airport and Airway Trust Fund



Source: FAA, Airport & Airway Trust Fund (AATF).

a. Grant Assurances and Obligations

Airports sponsors that accept Airport Improvement Program funds must also agree to certain obligations and conditions referred to as grant assurances. These assurances require the airport to maintain and operate their facilities safely and efficiently. This includes having an up-to-date and approved airport layout plan on file with the FAA.⁵ These obligations and grant assurances are discussed in more detail in [Chapter 11, Planning For Compliance](#).

2.1.3. FAA Design Standards

The FAA uses the advisory circular (AC) system to provide guidance to the aviation community regarding acceptable methods, procedures, and practices for complying with airport design standards, recommendations, and requirements as well as any other FAA rules and regulations. This system allows airport planners and engineers to identify design criteria for nearly every aspect of an airport.⁶ Several advisory circulars are used and referenced throughout this airport master plan. However, AC 150/5070-6B, *Airport Master Plans*, and AC 150/5300-13B, *Airport Design*, are two of the most relevant. FAA design standards are discussed in more detail in [Chapter 6, Requirements](#).

a. Critical Aircraft

A key determination of any airport master plan is the identification of the critical aircraft. The critical aircraft is the most demanding aircraft, or a family grouping of aircraft, with at least 500 annual operations. Identification of the critical aircraft is important because it is used to establish the FAA design standards that will be used for airfield facilities. These standards are based on the physical requirements of the critical aircraft and are used to determine several aspects of airport design such as runway and taxiway dimensions. For airports such as IDA where the infrastructure must support a wide range of aircraft and operations, it is wise to identify separate critical aircraft for the different areas of operations.⁷ The critical aircraft is discussed in [Chapter 5, Forecast of Aviation Demand](#).

2.2. Purpose of Airport Master Plans

The purpose of an airport master plan is to provide airport personnel with a long-term strategy for maintaining its important role within the national, state, and regional transportation systems. To serve as an effective planning guide, it should determine future aviation demand, identify and prioritize future development needed to maintain the safe and efficient operation of the airport, and provide justification for these projects. It should also include a realistic schedule for project implementation as well as a capital improvement program (CIP) that identifies potential federal, state, and local sources for funding.⁸

2.3. Objectives of Airport Master Plans

In general an airport master plan should meet the following objectives:

- Understand the issues, opportunities, and constraints of the airport.
- Consider the impact of aviation trends.
- Identify the capacity of existing airport infrastructure.
- Determine need for airport improvements.
- Obtain stakeholder and public input.
- Estimate project costs and funding sources.
- Develop a schedule for project implementation.⁹

2.4. Elements of Airport Master Plans

While the elements of an airport master plan are guided by the FAA, they vary in detail and complexity depending upon the size, function, and issues of each airport. As shown in Figure 2.2, these elements build upon each other throughout the planning process.

Figure 2.2: Airport Master Plan Process



Source: Ardurra.

2.4.1. 2022 Airport Master Plan Elements

The 2022 Airport Master Plan includes the following elements:

Airport Overview

Provides an overview of the airport's location and history as well as the economy and demographics of the surrounding area.

Inventory

Identifies the airspace surrounding the airport as well as the existing instrument approach procedures. It also documents the condition of all airport facilities and pavements.

Forecast

Identifies existing aviation activity and provides a forecast of the anticipated aviation demand at the airport for the next two decades.

Facility Requirements

Describes design and safety standards relating to runways, taxiways, and other facilities.

Development Alternatives

Identifies and evaluates potential alternatives for meeting the needs of the airport and its users.

Environmental Overview

Presents environmental factors the airport will need to take into consideration as part of proposed projects.

Airport Layout Plan

Describes and explains the technical drawings of airport facilities and planned improvements.

Implementation Plan and Financial Feasibility Analysis

Provides a proposed schedule for each of the projects recommended in the master plan and includes a capital improvement plan that identifies potential sources of funding.

Planning For Compliance

Discusses the obligations and grant assurances the airport must comply with when accepting FAA-administered grant assistance.

Sustainability and Recycling

Identifies sustainability requirements and provides recommendations for recycling and solid waste management.

2.4.2. Public Involvement

Every airport master plan includes a public involvement program. The level of public involvement typically corresponds to the complexity of the airport and the project as well as community interest. Effective public involvement connects numerous stakeholders such as aircraft owners, hangar tenants, and local businesses owners with public officials, airport planners, and government agencies. Public input is highly encouraged throughout the planning process. However, public involvement has its greatest impact during the early stages of the planning process when planners are better able to respond to concerns and incorporate feedback received from the community. A public involvement program typically includes several methods for the planning team to keep the community informed as well as receive comments and suggestions throughout the master planning process.

Committees

These typically include forming a technical advisory committee (TAC) and a community advisory committee (CAC). Committee members typically have a high level of technical competency associated with some aspect of aviation or airport operations and are stakeholders in the airport's operation. The community advisory committee provides the aviation planning team with valuable feedback and insight into the needs of the local aviation community and keeps the team informed of local issues.

Public Information Meetings

Public meetings or open houses with information stations staffed by members of the planning team can be a very effective method of engaging the public and soliciting community feedback. The formality of these meetings can vary depending on the complexity of the topics presented as well as the needs of the community. Due to the COVID-19 pandemic, public meetings evolved from traditional, in-person meetings to virtual or hybrid formats.

Public Awareness Campaign

An effective public awareness campaign is an essential part of an effective public involvement program. It is helpful in generating stakeholder involvement and maintaining stakeholder interest throughout the planning process as well as keeping the community informed. In addition to public information meetings, aspects of a public awareness campaign can include fliers, fact sheets, press releases, newspaper ads, and general information packets. Additionally, websites with interactive or self-guided presentations as well as electronic copies of the airport master plan are becoming an increasingly popular part of public awareness campaigns. An extensive public involvement program was developed and implemented for the 2022 Airport Master Plan. Details regarding this program are included as **Appendix A**.

Endnotes

- 1** U.S. Department of Transportation. Federal Aviation Administration. “Advisory Circular 50/5070-6B, Airport Master Plans.” January 27, 2015. https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_150_5070-6B_with_chg_1&2.pdf.
- 2** U.S. Department of Transportation. Federal Aviation Administration. “National Plan of Integrated Airport Systems (NPIAS).” December 7, 2022. https://www.faa.gov/airports/planning_capacity/npias.
- 3** U.S. Department of Transportation. Federal Aviation Administration. “Overview: What is AIP & What is Eligible?” August 2, 2022. <https://www.faa.gov/airports/aip/overview>.
- 4** U.S. Department of Transportation. Federal Aviation Administration. “Airport & Airway Trust Fund (AATF)” Accessed January 10, 2023. <https://www.faa.gov/about/budget/aatf>.
- 5** U.S. Department of Transportation. Federal Aviation Administration. “Assurances, Airport Sponsors.” May 2022. https://www.faa.gov/sites/faa.gov/files/airports/new_england/airport_compliance/assurances-airport-sponsors-2022-05.pdf.
- 6** U.S. Department of Transportation. Federal Aviation Administration. “Order 1320.46D, FAA Advisory Circular System.” April 7, 2015. https://www.faa.gov/documentLibrary/media/Order/FAA_Order_1320.46D.pdf.
- 7** U.S. Department of Transportation. Federal Aviation Administration. “Advisory Circular 150/5000-17, Critical Aircraft and Regular Use Determination.” June 20, 2017. https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5000-17-Critical-Aircraft.pdf.
- 8** U.S. Department of Transportation. Federal Aviation Administration. “Advisory Circular 50/5070-6B, Airport Master Plans.” January 27, 2015. https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_150_5070-6B_with_chg_1&2.pdf.
- 9** Ibid.