



1. Study Introduction and Goals

1.1 Introduction

This Airport Master Plan (AMP) for Beverly Regional Airport (BVY or the Airport) has been conducted to provide the Beverly Airport Commission (BAC, the Airport Sponsor or Sponsor) with a long-range plan for reasonable and orderly airport development designed to produce a safe, efficient, economical, and environmentally sustainable air transportation facility that meets the region’s existing and projected aviation demand levels in a thoughtful manner. The Airport Master Plan along with the accompanying Airport Layout Plan (ALP) have been prepared in compliance with the Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*. The previous Beverly Regional Airport Master Plan was completed in 2010. This current study was funded by the FAA, the Massachusetts Department of Transportation (MassDOT) Aeronautics Division, and the Airport Sponsor. Technical work was conducted by a project team led by Airport Solutions Group (ASG), and supported by Jviation, and GZA GeoEnvironmental.

The FAA requires that an airport undertake a master plan effort every five to ten years. Funding is provided by a combination of federal, state and local sources.

The principal goal of the AMP is to provide a carefully considered, systematic approach to the Airport’s overall maintenance, development, and operation over a 20-year planning period. At its core, this planning effort is designed to identify and then plan for current and future airport facility needs well in advance of the actual demand for those facilities. The AMP is also designed to review and assess the Airport’s current conformance with federal and state airport design and operational standards to help ensure that the Airport continues to operate as safely as possible. It will also ensure that BVY can appropriately coordinate project approvals, design, financing, and construction, while avoiding the potentially detrimental effects caused by inadequate or noncompliant airport facilities

An Airport Master Plan documents an airport sponsor’s short-, mid-, and long-term strategies for operation and development over a 20-year period.

1.2 Master Plan Purpose and Objectives

The overall purpose of the BVY AMP is to define the Airport Sponsor’s approach for the long-term development of the Airport. This AMP provides the framework to guide future airport development that will cost-effectively satisfy current and future aviation demand in a logical and financially feasible manner, while also considering and incorporating relevant environmental and community factors. Consistent with this purpose, the project team coordinated with the Airport to establish general objectives for the AMP, listed below.

An effective Airport Master Plan will reflect the goals and purposes of the airport sponsor and its associated stakeholders.

- Define the Airport’s role within the community and greater region.
- Continue to be an economic engine for the City of Beverly, the Town of Danvers, the Town of Wenham, and the surrounding areas by providing jobs, revenue, and viable aviation services for the growing regional market.
- Serve as a model airport for aircraft operations, efficiency, and safety.
- Provide its tenants, users, business community, and travelers with a professional experience.



- Guide the development of the Airport with the goal of providing a safe, efficient, and effective facility as aviation demand, market conditions, and technologies evolve over time.
- Continue to comply with all appropriate federal and state regulations, obligations, and design standards.
- Present a recommended course of action for helping the Airport achieve and maintain short- and long-term financial self-sustainability.
- Be consistent with the host communities' goals for their public-use facilities.
- Consider and potentially integrate other local and regional economic development initiatives.
- Analyze the condition of the Airport's existing facilities and their effectiveness in meeting current and future aviation needs, as well as conformance with federal airport design standards and operational benchmarks.
- Provide a planning document for the next 20 years that is technically accurate, realistically executable, and financially feasible.
- Provide guidance for the management of capital improvement projects at the Airport.
- Focus on environmental sustainability.
- Consider the current and projected security requirements for general aviation airports.
- Incorporate public involvement throughout the AMP process to ensure that the Airport's future aligns with the values and vision of its host communities.

To be an effective contributor to the national, state, and regional airport systems, an Airport Master Plan must also consider the goals of these various systems.

It should be acknowledged that these specific airport goals are also consistent with the descriptions provided by the 2010 Massachusetts Statewide Airport System Plan (MSASP) to promote an airport system (through development of its airports) that accommodates demand, supports economic and transportation needs, and maximizes funding resources while being conscious of environmental issues. The plan recognizes that for an airport system to operate effectively, its individual airports must exhibit similar characteristics. Specifically, an ideal airport system (and by extension the airports that comprise that system) should be characterized by the following traits:

- Safe, secure, and meet applicable FAA design standards that will satisfy the current and future needs of aviation.
- Comply with all federal, state, and local environmental regulatory requirements.
- Identify the economic impact and benefits of airports as well as the economic benefit of incremental investments in airports.
- Be efficient with enough facilities and services to maintain the airport and address the current/future needs of the aviation community.
- Promote and support aviation educational programs and community outreach programs.
- Support integration with other modes of transportation.

In addition to addressing these objectives, the AMP must also fulfill the broad master planning goals established by the FAA in AC 150/5070-6B, *Airport Master Plans*. These goals include the following:

- Document issues that the proposed development will address.
- Justify the proposed development through the technical, economic, and environmental investigation of concepts and alternatives.
- Provide an effective graphic presentation of the development of the Airport and anticipated land uses in the vicinity.
- Establish a realistic schedule for implementing the development proposed in the AMP, particularly the short-term capital improvement program.
- Propose an achievable financial plan to support the implementation schedule.
- Provide sufficient project definition and detail for subsequent environmental evaluations that may be required before the project is approved.
- Present a plan that satisfies local, state, and federal regulations.
- Document policies and future aeronautical demand to support municipal or local deliberations on spending, debt, land use controls, and other policies necessary to preserve the integrity of the Airport and its surroundings.
- Set the stage and establish the framework for a continuing planning process.

1.3 Overview of Airport Issue and Concerns

BVY's previous AMP Update was completed in 2010 by Jacobs Engineering Group. Since that time, many of the Airport issues and focal points identified in that master planning effort have been addressed through the completion of specific projects and/or the updating of specific airport documents. Some issues may not have been addressed due to changing industry circumstances and/or master plan assumptions or have still yet to be resolved.

The following issues and concerns have been identified for this 20220 AMP:

- **Airfield Design Standards:** Since 2010, BVY has continued to experience growth and development that generally matches the aviation industry. This AMP must ensure that the Airport continues to comply with federal and state airport design criteria for safety and efficiency related purposes.
- **Airfield Geometry:** BVY should assess its airfield (i.e., runways and taxiway) geometry to determine if adjustments should be made to improve operational safety, efficiency, and sustainability.
- **New Aviation Related Development Areas:** The Airport must try to identify new on-Airport potential development areas to meet existing and future demand for aviation-related businesses, hangars, and other facilities.
- **Non-Aviation Related Development Areas:** BVY should identify areas on its property that could be made available for potential non-aviation related development to help diversify the Airport's revenue streams and increase its economic benefit for the local area.
- **Pavement Strength:** BVY is a General Aviation Regional Reliever airport, having infrastructure to meet the historical requirements of that industry

When starting an Airport Master Plan, it is important to acknowledge the key issues to be addressed within the planning effort.



segment. However, as the GA industry continues to evolve, the Airport must assess the ability of its existing pavement strength to safely and economically accommodate newer GA aircraft.

- **Pavement Maintenance:** The Airport must establish a pavement maintenance program that considers the age and condition of existing airport pavements, options for maintenance or repair, and approximate costs for these improvements.
- **Airport Security:** The Airport must evaluate its current security systems and policies, including airport fencing, cameras, security plans, etc.

All these issues, as well as others that are uncovered during the planning process, are discussed in subsequent chapters.

1.4 Airport Master Plan Communication & Coordination

Public involvement is an integral part of any significant airport planning study since it encourages information sharing and collaboration among the community and the airport stakeholders that have a collective interest in the outcome of the study. Stakeholders typically include airport management, the airport sponsor, tenants, users, local businesses and residents, resource agencies, elected and appointed public officials, and the general public. With such a diverse stakeholder group, a variety of forums are often employed to enhance the effectiveness of the project coordination effort.

- A Project Management Team (PMT) was established to provide management and oversight, and to ensure that the AMP is executed within the approved scope of work/budget and on schedule. The PMT included representatives from the Airport Sponsor, the FAA, MassDOT Aeronautics, and the project consultant team.
- A Planning Advisory Committee (PAC) was established to serve as a resource to ensure the Master Plan addressed the key issues facing the Airport and its surrounding community. The PAC membership represented the following:
 - BVY Host Communities (City of Beverly, Town of Danvers, Town of Wenham)
 - Citizens At-Large (City of Beverly, Town of Danvers, Town of Wenham)
 - Beverly Airport Commission (BAC)
 - BVY Management
 - BVY Businesses and Tenants
 - BVY Pilots
 - National Business Aviation Association (NBAA)
 - Aircraft Owners and Pilots Association (AOPA)
 - North Shore Chamber of Commerce
 - Area Employers
 - MassDOT Aeronautics
 - FAA

Critical to the success of any Airport Master Plan is an effective communication and coordination effort with the airport's key stakeholders.

The role of the PAC membership was to engage in productive conversation regarding the development potential, needs, and challenges of the Airport; review and comment on draft study products; and to provide links to agencies and other constituencies represented by the PAC membership. Three PAC meetings were held throughout the project.

- An online survey of key airport stakeholders (including users, tenants, based aircraft owners/pilots, transient pilots, and airport users at large) was conducted to solicit feedback regarding a variety of topics including Airport strengths and weaknesses, the future of the Airport, as well as their individual activities at the Airport. The survey results were utilized to help guide planning actions documented in **Chapter 4, Airfield Capacity & Facility Requirements**.
- Various public outreach materials were created, and methods employed to generate public awareness of the AMP. The materials and outreach program served as important sources of information for interested parties to keep them informed of the planning process, to solicit input, and to facilitate decision-making during the process. The outreach materials included a project website, press releases for local media, meeting advertisements, and social media publications.
- Finally, in addition to the PAC, other forms of public involvement included regular public briefings to the Beverly Airport Commission, as well as three community information meetings/workshops. The workshops provided an opportunity to engage the public in meaningful conversation about the Airport and the AMP. Other additional briefings and technical meetings were organized with key agencies, stakeholders, and public officials as required. Notes from meetings are included in **Appendix D**.

1.5 Master Plan Study Elements

The BVY AMP has been prepared consistent with the guidance provided in FAA AC 150/5070-6B, *Airport Master Plans*, and other industry-accepted principles and practices. Specifically, this Master Plan’s chapters are designed to identify future facility requirements and provide the supporting rationale for their implementation.

Chapter 1, Introduction and Goals provides an overview of the AMP, including its purpose, objectives, and work products, and the overall structure of the project.

Chapter 2, Inventory establishes a sound basis for plan and program development. The inventory compiles essential data regarding the physical, operational, and functional characteristics of BVY, its sub-components, and its environs. It should be recognized that environmental factors are considered and weighed throughout the master planning process starting in this chapter.

Chapter 3, Aviation Activity Forecast serves as the hub of the AMP by utilizing local socioeconomic information and national air transportation trends to project the levels of aviation activity that can reasonably be expected at BVY over the 20-year planning period. Because many of the proposals and recommendations in the AMP are principally based on aviation activity demand forecasts, it is critical that the

*To be effective, an Airport Master Plan must be designed to meet the individual needs of the Airport and its host communities. Federal and State agencies contribute to this process, but **this is ultimately the Airport’s plan!***

While an Airport Master Plan must follow the federally defined airport planning process, the FAA only approves the aviation activity forecasts and the Airport Layout Plan.



forecasts are reasonable and defensible. ***Note that the aviation forecasts must be officially reviewed and approved by the FAA.***

Chapter 4, Airfield Capacity & Facility Requirements utilizes the results of the Forecast Chapter to assess the ability of existing airside and landside facilities to meet the projected level of demand for the five-, ten-, and twenty-year planning horizons. This analysis defines requirements for additional facilities, expansion to existing facilities, and determines whether the facilities will meet the forecast of demand over the 20-year planning period. Beyond this, airport facilities are examined with respect to potential improvements that may be needed to safely serve the type of aircraft expected to operate at the Airport in the future. This includes compliance with FAA airport design standards, airspace clearance requirements, facility improvements, as well as possible navigational aids to enhance the safety and efficiency of aircraft operations.

Chapter 5, Development Alternatives & Recommended Plan considers a variety of solutions to accommodate the anticipated facility needs identified within the Airfield Capacity & Facility Requirements analysis. Through this process, various facility and site plan alternatives are proposed and weighed with respect to their ability to meet the projected facility needs. This analysis ultimately results in a preferred development alternative deemed to best meet the Airport's facility requirements and its long-term goals in an efficient and appropriate manner. As a tool for the alternatives review and evaluation, matrices are employed to help identify the strengths and weaknesses of each proposed development alternative in order to determine a single direction for development. This evaluation method focuses on several key criteria, including cost, efficiency, feasibility, operational effectiveness, among others. An environmental screening of the preferred development plan is also included in this chapter.

Chapter 6, Airport Layout Plan provides both a graphic and narrative description of the recommended plan for the use, development, and operation of the Airport. ***Note that the Airport Layout Plan set must be officially reviewed, approved, and signed by the Airport, the Commonwealth of Massachusetts, and the FAA.***

Chapter 7, Financial Plan focuses on the capital improvement program which defines the schedules, costs, and funding sources for the recommended development plan. It is important that the development program is practical, reasonable, and capable of enhancing the economic viability for the Airport.

To secure federal and state grant funding, all potential Airport development must be reflected on an approved and signed Airport Layout Plan (ALP).
