Chapter 1
INTRODUCTION

The **CITY OF BIDDEFORD, MAINE** contracted with DUFRESNE-HENRY, INC., consulting engineers and planners, to prepare an Airport Master Plan Update (AMPU) for the Biddeford Municipal Airport (B19).[1] The purpose of this AMPU is to provide guidelines for the logical and timely development of the airport. This update to the last master plan report completed in 1985 will identify needed improvements and establish priorities based on existing and projected aeronautical demands.

This AMPU project is financed jointly by the Federal Aviation Administration (FAA), the Maine Department of Transportation/Office of Passenger Transportation (MDOT/OPT), and the city of Biddeford, through a planning grant under the Airport Improvement Program (AIP) of the Federal Aviation Administration Authorization Act of 1994 (AIP Project #3-23-0009-04). Definitions of terms as well as the acronyms used throughout this AMPU are defined in Appendix A.

PLANNING PROCESS

Airport master planning is the systematic way by which airports are developed and enhanced. The underlying motivation for airport planning and development is a perpetual search for ways to increase system capacity. Airports provide capacity for the air-transportation system. The capacity of a specific airport depends on its design, weather conditions, financial capabilities, and operating limits imposed by environmental conditions.

An AMPU document consists of numerous parts that develop a systematic analysis leading the reader along a natural progression, from the inventory of existing conditions to the recommendation of improvement programs. Guidance for preparing an AMPU comes from the FAA Advisory Circular (AC) 150/5070-6A, *Airport Master Plans*. This AC may be used for preparing individual airport master plans pursuant to the provisions of the Airport and Airway Improvement Act of 198[2], or for general airport planning, irrespective of federal involvement. Various other documents are referenced throughout this report to support the credibility and success of the development recommendations.

A thorough inventory of existing conditions at Biddeford, and assimilation of historic data will enable the forecasting of future activity demand. Analyses of demand/capacity relationships, in turn, provide a basis for determining facility requirements and developing alternative airside and

[1] B19 is the Federal Aviation Administration identifier for the airport.
[2] Public Law 97-248 under Title V of the Tax Equity and Fiscal Responsibility Act of 1982 (September 3, 1982).

landside concepts designed to achieve a balance in capacity among all components. The physical capability of expansion is determined, as well as its timing based on the development costs versus delay-reduction benefits, operational reliability, safety considerations, and ability of the airport sponsor to finance the improvements.

Goals and Objectives

The goal of this AMPU is to provide guidelines for future airport development that will satisfy aviation demand in a financially feasible manner, while also resolving any aviation, environmental, or socioeconomic issues. The community, through the airport commission, developed targets (specific goals and objectives) early in the AMPU process that addresses their needs as it relates to the airport and surrounding infrastructure. These goals and objectives are listed below.

As this AMPU develops, many of the goals and objectives of the city, the planning advisory committee, MDOT/OPT, and FAA will be addressed, with a strong emphasis on what the city wants and desires, weighed against state and federal guidelines for airport development. A clear understanding of these goals and objectives will materialize as this report reaches its conclusion, and will be spelled out in the final summary of this AMPU, and shown graphically in the airport layout plan (ALP) set. However, it should be noted that the purpose of this AMPU is not to find a solution for all of these goals and objectives, but rather a starting point from which the airport and community can achieve their objectives. Possible solutions, where applicable, are indicated in italics.

- **Goal #1**. To provide facilities that will increase general aviation usage (operations and based aircraft by 10% by the year 2007.

  Objective 1: Install airport fencing to prohibit hunting, horseback riding, and 4-wheel vehicles from trespassing. *Airport security and wildlife fencing is recommended and is considered a very high priority for the airport, but not approved by the City Council.*

  Objective 2: Maintain facilities – public works will remove obstructions and repair hangar doors. *Extensive obstructions were reveled as part of this study and an abridged vegetation management plan identified.*

  Objective 3: Improve the access road.

  Objective 4: Develop a path around the runway for community use. *State officials were contacted and a preliminary bike/walking path location identified, however the City Council did not approve it as part of the ultimate layout.*

  Objective 5: Investigate security improvements that can be made in consideration of September 11, 2001.

  Objective 6: Provide jet fuel.

- **Goal #2.** To provide streamlined operations that will decrease operation costs by 10% by the year 2007.

  Objective 1: Appoint an airport manager designee. *The new City Manager, upon taking over his position, appointed a part-time airport manager in August 2002.*

  Objective 2: Conduct grant assurance research for the airport.

  Objective 3: Prepare a maintenance plan.

  Objective 4: Prepare a vegetation removal plan.

  Objective 5: Prepare a risk assessment in response to security concerns after 9/11.

- **Goal #3**. To provide a safe runway for general aviation airplanes, and adhere to Federal Aviation Standards by the year 2004.

  Objective 1: Increase the length of the runway to 4,000' – displace or relocate the runway taking into account wind analysis for a crosswind runway. *A 3,500' runway extension was recommended in two phases: design first in the short-term, and then construct in the intermediate-term. No justification for a longer runway can be made at this time.*

  Objective 2: Maintain facilities.

  Objective 3: Install an AWOS. *Recommended as part of this report.*

  Objective 4: Increase aircraft parking. *Recommended as part of this report as a short-term project to improve safety and relieve congestion.*

  Objective 5: Provide relief from back taxi operations. *This objective will be addressed in three phases: in the short-term the construction of an aircraft holding area on the Runway 24 end; then a partial parallel taxiway from the apron to the Runway 24 end should be developed in the intermediate-term. The taxiway can be completed to the Runway 6 end in the long-term.*

- **Goal #4**. Provide services for the community and encourage charitable donations and volunteer time by 5 percent per year.

  Objective 1: Implement a proactive public relations program; appoint a person responsible, provide aviation education opportunities, prepare a flight path analysis, work with the Experimental Aircraft Association (EAA) and Maine Aeronautics Association (MAA).

  Objective 2: Displace runway 500' away from the [proposed] public school. Note: The proposed school will be built behind the existing middle school located on Hill Street. *It was determined that a runway displacement is not required. The school is not a factor as far as FAA design criteria and federal aviation regulations are concerned.*

  Objective 3: Develop a path around the airport for community use. *See Goal #1, Objective #4.*

  Objective 4: Develop an overlay zoning district.

- **Goal #5**. To provide economic development opportunities, encourage industrial development, which would increase traffic by 5 percent by the year 2005.

  Objective 1: Lengthen runway to 4,000' (s*ee Goal #3, Objective #1).*

  Objective 2: Maintain facilities.

  Objective 3: Survey industrial [park] users.

  Objective 4: Provide jet fuel.

  Objective 5: Develop an overlay zoning district.

Planning Advisory Committee

The AMPU process involves collecting data, forecasting demand, determining facility requirements, and developing plans and schedules, in order to update the last master plan. These steps cannot be undertaken effectively without understanding other aviation, transportation, and comprehensive-planning requirements. The AMPU process must consider airport tenants and users, as well as the public who may be affected by its results. Their involvement throughout the process avoids "surprises" and helps develop a consensus. Early progress toward a consensus on master-plan recommendations can pave the way for effective environmental-assessment and impact-statement reviews.

Public participation is an important function in developing the AMPU report. Information provided by the public has the benefit of tailoring the planning process specifically to the needs of the airport and local community. A Planning Advisory Committee (PAC) was organized by the City Manager. The PAC is the basic unit of citizen involvement in airport planning. Although the PAC has no decision-making power of its own, it helps shape the final decision through its interaction with the planning team. At the completion of the AMPU, the PAC may be disbanded.

The PAC and Client Team were comprised of the following members:

Andre Robidoux Biddeford Resident	**Clement Fleurent** City Council Member
Edmond Miner[3] Pilot	**Valerie Pelletier** [4] Biddeford Resident/Airport Abutter
Paul Lariviere Biddeford Resident	**Edward Clifford**[5] City Manager
Thomas Bryand Biddeford Resident	**Ervin Deck** Dufresne-Henry, Project Planner
Philip Gadbois Biddeford Resident	**Jay Wood** Dufresne-Henry, Project Manager
Marc Desrosiers Biddeford Resident	**Jennifer O'Bryon** MDOT/OPT, Aviation Planner
Allen Ryan Biddeford Resident	**Ralph Nicosia-Rusin** Federal Aviation Administration, Airport's Division

Community/Neighborhood Cooperation

This AMPU was started with the full cooperation of the city manager, city council, and mayor, with the understanding that the objective of the project was to review the existing facility and make recommendations for future needs, consistent with the needs of the aviation and local community and in accordance with FAA design requirements. Historically the community has accepted the airport in its role as a small general aviation facility, and with the exception of occasional noise complaints; the airport has coexisted, sandwiched between established neighborhoods to the east and south, and a growing industrial park to the north. Previous attempts to "expand" the airport – an outgrowth of the last master plan update -were not successful. It is widely felt that the proposed second runway and overall expansion of the airport recommended in the 1986 plan was not fairly represented by aviation and business interests. In addition it received "unfair" public scrutiny that resulted in a defeat of the 1988 referendum and eventual tabling of the entire project. Public sentiment may have changed. The industrial park has grown considerably in the past 15 years, as well and the public road system and the overall population. In addition, this region of Maine has become a tourist Mecca. While attitudes toward general aviation probably still prevail in many areas of the community, the need for a facility that compliments industrial and tourism needs cannot be ignored.

[3] Mr. Minor was a resident of Biddeford when the project started.
[4] Mrs. Pelletier was added to the PAC in December 2003.
[5] Mr. Clifford replaced Mr. Benway as City Manager.

As part of this project several community presentations were made.

- Public Information Meeting/City Council Presentation - December 18, 2003
- State Environmental Interagency Presentation – January 24, 2004
- Public Information Meeting/City Council Presentation – February 18, 2004
- City Council Question and Answer Session/Community Workshop – April 7, 2004
- City Council Meeting/Project Vote – September 7, 2004

Overview of this AMPU

The purpose of this AMPU is to document the need for airport improvements. In addition, a realistic implementation plan for these improvements will be prepared that considers not only the demand, but also the ability to construct and finance the improvements, as well as the ability to minimize environmental impacts because of these improvements. This plan will be tied closely to "triggers" that stimulate the need for change.

Ideally, the AMPU should reflect an up-to-date assessment of what exists and what is required. The existing master plan was completed in 1985 by Hunter-Ballew Associates. Much of the data used in that document was based on activity levels from 1984 and earlier.

Updating airport plans to reflect airport modification and off-airport development is a necessity. In fact, airports receiving federal financial assistance are required to keep their ALP current. Other than maintaining the currency of its ALP, smaller airports are not required to continually update their master plan. Once an adequate master plan has been produced, a revision is necessary to deal with unforeseen and substantive changes in activity or the emergence of critical issues. In light of the time period that has elapsed since the last AMPU and ALP update, a new master plan is warranted.

Critical Issues

This AMPU addresses numerous planning tasks that will have a significant impact on the future configuration of the airport. These issues are not intended as "final". Instead, they are presented as the foundation from this project as it was undertaken. As this AMPU developed, new issues were added, within the limits of the scope of work.

- **Reanalyze the 1985 AMPU and determine a realistic aircraft operations count.** The last AMPU forecasted operations in the 50,000 to 60,000 range, and 100,000 by the year 2015. This update will determine if this data is accurate and if not, what are the current numbers and projections?

- **Address the need for a second or longer existing runway.** The 1985 AMPU recommended the construction of a new 5,400 foot crosswind runway capable of servicing the upper end of the corporate business jet fleet. Is this still a viable alternative? Will a longer and/or wider existing runway alleviate the need for a second surface?
- **What are the real requirements of the airport based on 2002 data?** Data in the existing AMPU was gathered 18 years ago. What has changed in nearly two decades?
- **Does this facility meet the needs of the community?** Does the airport meet the needs of the adjoining business park and the taxpayers of Biddeford and the region?
- **Has this facility kept pace with the strong economic influence of Southern Maine?** If not, what issues must be addressed to help it keep pace with this growth?
- **Are there any safety issues that must be addressed before any development, if recommended, can proceed?** Has the City kept pace with changes in Federal and state requirements for airport safety and development? Has the community encroached on the airport, thus creating a hazard to people and property? Are operations at the airport consistent with current Federal regulations? Is the airport in compliance with its grant assurances?

Plan Implementation

The preliminary scoping process determined that the sponsor has the financial capability to undertake the airport development addressed in this section of the AMPU. The implementation schedule was adopted as part of the early scoping process; it must now be periodically subjected to economic analysis to ascertain whether the financial considerations upon which it is predicated remain reasonably on target. That is, will the airport sponsor be in the position to fund recommended projects?

Financial planning in support of the implementation schedule involves strategies for obtaining capital financing, and the identification and projection of current and future revenues to cover all or part of the cost of capital financing and airport operations.

Figure 1-A shows the AMPU development process from the beginning of the project in the summer of 2002 until delivery of the final report in February 2005.

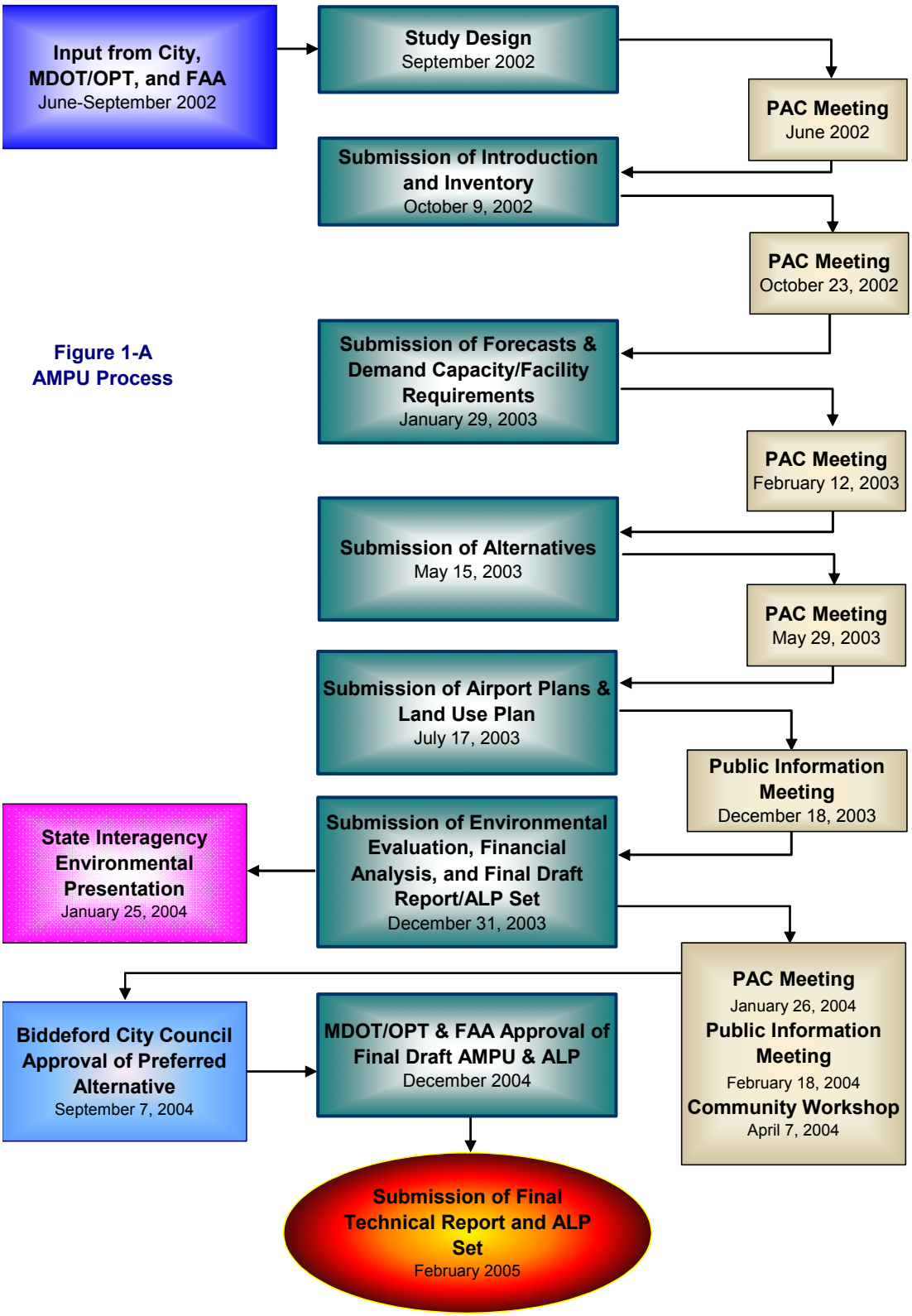

Figure 1-A
AMPU Process