

CHAPTER 1: STUDY DESIGN

AIRPORT MASTER PLAN AND ALP UPDATE

Dickinson, ND



PREPARED FOR:
DICKINSON THEODORE ROOSEVELT REGIONAL AIRPORT
DICKINSON, ND

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PLANNING BACKGROUND

The overall objective of an Airport Master Plan Update is to provide a framework for long-term development that encourages the future growth of aviation in the community. It is important that the plan effectively considers the community's demands for safety, economic efficiency, and environmental responsibility while meeting this overall objective.

The Dickinson Municipal Airport Authority understands the importance of maintaining a current Airport Master Plan and directed the preparation of this Master Plan Update. To satisfy the community's need for a comprehensive planning effort, the authority established the following overall planning objectives for this Master Plan Update.

- To formulate a clear understanding of the airport's role and the types of aircraft and aviation activities it is expected to serve.
- To develop an integrated, long-term development plan that addresses functional requirements needed to meet forecast demand and fiscally sound and feasible business plan to facilitate implementation of the development plan and address the ongoing operational implications.
- To provide an effective graphic presentation and technical report in support of Owner development that is clearly understood by the community, FAA, and all other agencies charged with approving, promoting, and funding airport improvement program work now and in the future.

To carry out these objectives, this Master Plan Update was pursued in two phases. Each phase included specific planning goals. The Planning Goals for Phase I which was initiated in the spring of 2012 included the following:

Runways, Taxiways and Aprons:

- *To determine the future runway length and strength needed and where and when an extension would be constructed.*
- *To determine requirements to transition from an ARC of B-II to C-II as Stage 1 development, and C-III as Ultimate development of the airport.*
- *To determine the impact of realignment of taxiways for both runways to a traditional parallel configuration.*
- *To determine the requirement for additional apron for commercial and general aviation aprons.*

Property & Land Use

- *To create a land use recommendation for land surrounding the airport property.*
- *To determine preferred layout for general aviation facilities.*
- *To perform analysis of terminal area facilities and expansion options.*

General

- *Document and analyze regional economic and socio-economic conditions which are impacting demand for air service at the airport for development of forecasts for the airport.*
- *Develop alternative forecasts based upon impact of energy development in the area, including Air Service market analysis, encompassing passenger demand assessment and implementation strategies for air service improvements.*
- *Develop a comprehensive business plan for the airport to identify potential revenue enhancements, expense containments and preferred operational guidance to help ensure self-sufficiency for the airport. This business plan will also consider the impacts of proposed development and the fiscal impact of implementation and ongoing operation of those improvements.*
- *Assess market for potential aviation related businesses that could be enhanced on the airport.*
- *Perform cursory analysis of impacts on TSA security requirements and FAA Part 139 certification requirements at increased level of activity at the airport.*
- *To update the existing ALP and reflect preferred development plans as determined by this planning process.*

The Airport Authority, the FAA, and the Airport's Planning Consultant, KLJ, Inc., agreed more in-depth study was needed and Phase II was initiated in the fall of 2013. The Project Description and Objectives for Phase II are included as follows:

Description

This project addresses additional planning elements requested by the FAA to further justify, quantify, and develop a phasing plan for improvements at the Dickinson Theodore Roosevelt Regional Airport that were determined in Phase I of the Airport Master Plan. This project will update and provide supplemental information to determine a preferred development option. To accomplish this, the following will be performed:

- *Additional analysis of potential alternatives (maximum of three build alternatives)*
- *Development of a preferred alternative*
- *Examination to determine a preferred phasing of project elements*
- *Program management to address funding and expenditure and the development of a preferred Capital Improvement Plan (CIP) that is satisfactory to the Owner, FAA and North Dakota Aeronautics Commission (NDAC)*
- *Preliminary review of applicable environmental studies*
- *Conduct 2-day wildlife hazard site visits in the spring and the fall*

OBJECTIVE

The general objective of this project is to provide documented information necessary for the FAA and the Dickinson Municipal Airport Authority (Owner) to reach a consensus on the type, design, and location of possible airport improvements for airport expansion. The specific objective of this project is to document the:

- *Preliminary design impacts of three build alternatives, including applicable design and safety standards, land acquisitions, NAVAID impacts and other considerations*
- *Fiscal impacts of various options, including detailed planning level cost estimates based upon pre-design data available*
- *Potential phasing options to facilitate the development of the alternatives*
- *Review of environmental impacts, such as cultural, Tribal and wildlife impacts*
- *Submittal of FAA Form 7480 for proposed airport alternatives (up to three build alternatives)*

It is also a specific objective of the project that analysis completed will assist the Owner in selection of a preferred development alternative.

This Master Plan document combines all relevant information from both Phase I and Phase II; no documents were produced in Phase I.

PLANNING METHOD

Planning and operating Dickinson Theodore Roosevelt Regional Airport affects nearly every member of the community. For that reason, airport development must be a grassroots effort, involving the area's citizens to the greatest extent possible in the planning process.

Community involvement also has the positive effect of building consensus for the growth of aviation and support of efforts to further develop Dickinson's Airport. Airport development often involves the commitment of extensive community resources and it is critical to the successful implementation of the Master Plan Update that the entire community rallies in its support.

The Dickinson Municipal Airport Authority recognizes the need for community involvement and support in the preparation of this Master Plan Update. To that end, the airport chose to affect a strategic element to the planning process whereby a body of community representatives was systematically involved to identify a comprehensive list of aviation issues of importance to the community and prepare courses of action to resolve them; this was completed in two separate forms.

The airport identified several key stakeholders in the community to be personally interviewed by airport management and the planners. A synopsis of the perspectives of these stakeholders is compiled in Chapter 2, Existing Conditions.

In addition to these interviews, the airport also held three meetings to update the community on the planning efforts and assist the airport in determining a preferred alternative. Several elected and public officials, representatives of the FAA and North Dakota Aeronautics Commission, along with the key stakeholders interviewed, were invited to these meetings. This body of community representatives is known as the Citizen Advisory Committee (CAC).

The CAC held three meetings during Phase I of the Master Plan Update. No public meetings were conducted with Phase II. These meetings consisted of:

- 1) May 1, 2012: Planning kick-off meeting to provide an overview of the anticipated planning efforts, deliverables and role of the CAC
- 2) July 24, 2012: Review of Existing Conditions, Preliminary Forecast and Requirements and Concepts
- 3) April 10, 2013: Review of Forecast, Requirements and Concepts and Financial Plan and next steps to be completed

PLANNING SCOPE

The study scope for this Master Plan Update is intended to satisfy the specific needs and objectives of Dickinson Municipal Airport. Federal Aviation Administration (FAA) requirements contained in Advisory Circular 150/5070-6B, Airport Master Plan, and related documents were met in this planning project.

The basic study scope includes the following major elements.

Existing Conditions

The purpose of this task is to gather relevant socioeconomic, infrastructure, and aviation activity data in order to formulate profiles of the community and airport. These profiles provide benchmarks to measure against aviation forecasts and airport facility requirements prepared in subsequent tasks.

Aviation Forecasts

The purpose of this task is to project short, medium, and long-term critical aviation demands, e.g., enplanements, based aircraft, and operations. The forecasts prepared were used to infer the airport's future facility requirements.

Airport Requirements & Concepts

The purpose of this task is to determine the airport's future facilities requirements using established FAA and other planning criteria as applied to the aviation forecasts. Alternative development concepts for airside and landside areas are also prepared. These concepts will accommodate the facility requirements within operational, financial, and environmental parameters.

Alternatives Analysis

The purpose of this task is to thoroughly review the development alternatives. This will include a review of the capability of each alternative to meet safety and capacity needs and the construction options and cost of construction for each of the evaluated alternatives.

Implementation

The purpose of this task is to formulate a realistic schedule and funding mechanism for the purpose of implementing the proposed capital improvements.

Environmental Review

The purpose of this task is to briefly review the proposed capital improvements for potential environmental consequences in order to determine whether an environmental assessment may be required. This review will follow the guidelines established in the FAA Environmental Handbook, Order 5050-4B.

Airport Layout Plan (ALP)

The purpose of this task is to prepare a graphic presentation to scale of existing and future airport facilities as identified by the planning process. The ALP serves as a public record and is subject to the approval of the FAA in its review of proposed development projects. Airport development not included on a FAA approved ALP is generally not eligible for federal funding.

Business Plan

The purpose of this task is to evaluate the manner in which the airport currently conducts business. A financial evaluation will primarily be conducted and will conclude with recommendation as to how to best manage finances and to fund the ongoing operations of the airport.