



CHAPTER 1: INTRODUCTION

Purpose and Scope

The information presented in this report represents the study findings for the Minot International Airport Master Plan Update prepared for the City of Minot. Airport Master Plans are prepared in accordance with Federal Aviation Administration (FAA) [Advisory Circular \(AC\) 150/5070-6B, *Airport Master Plans*](#).

This Airport Master Plan Update will serve as an updated guide for identifying future development necessary to accommodate existing and future aviation demand. Many projects have been completed and new planning considerations have developed since the previous Master Plan study in 2010.

The scope of the study was developed by the Minot International Airport, KLJ and reviewed by FAA and state officials to identify the specific needs and objectives of the City of Minot. The scope includes work tasks with the purpose of documenting existing conditions, forecasting future aviation activity levels, identifying future facility requirements, formulating and evaluating airfield alternatives, and preparing implementation plans. Recommendations will be made for improvements that are triggered by safety requirements or demand thresholds.

The project received notice to proceed in August 2015. The baseline project data is from inventory efforts completed in September 2015.

Airport Master Plan Format

The required and recommended contents of Airport Master Plans are detailed per FAA standards, specifically the Airport Master Plan Advisory Circular 150/5070-6B. Effective airport master plans are based on the analysis of significant amounts of data, and many airport master plans typically present not only the planning conclusions, but all data and accompanying analysis in considerable detail.

This Master Plan presents extensive data to support the plan in a series of chapters and appendices. Narrative report chapters contain key study information. As the reader moves through the narrative report, there are frequent references to specific appendices to provide additional technical details and data. In addition, internet hyperlinks are included to reference documents that are current as of the time of this report.

Airport Background

Minot International Airport is located within the boundary of the City of Minot, approximately 2 miles north of downtown Minot. See **Exhibit 1-1: Airport Location Map**. Airport property encompasses approximately 1,482 acres. Detailed information on airport background is provided in **Appendix F: Airport Background**.



Planning Considerations

Planning considerations for an airport master plan are features, elements or events that should be evaluated because they have the potential to affect the airport facility over the long term.

Previous Master Plan

The Airport has historically completed Master Plan studies or updates every five to seven years. The last Master Plan for Minot International Airport was completed in 2010. The 2010 Master Plan study recommended several improvements including:

Projects Completed

- Construction of a Snow Removal Equipment (SRE) building.
- Construction of Taxiway D.

Projects In-Process

- Construction of a new terminal and associated facilities (apron, parking, etc.).

Projects Not Completed

- Shifting Runway 8-26.

While many of the improvements proposed in the 2010 master plan have been constructed or are underway, there are other needs that remain.

Local Considerations

Airport master plans for commercial service airports are typically updated every 5-7 years. Between 2010 and 2015, the airport has seen many changes that affect airport planning. The construction of the new airline terminal and growth that Minot has experienced as a result of oil production in the Bakken has led to increased aviation operations and facility needs. Some key focus areas of this Master Plan are:

- Identify corporate demand and a location to support the needed corporate area development.
- Identify cargo demand and a location to support cargo aircraft and sorting facilities.
- Identify general aviation hangar area demand and a location to support hangar development.
- Evaluate alternative uses and possible disposition of the existing airline passenger terminal once construction of the new terminal is complete.
- Analyze and identify the most demanding/critical aircraft operating at the airport and identify the runway and taxiway requirements necessary to support the existing and forecasted demands.
- Identify cultural constraints and incorporate them and other known environmental and wildlife constraints into the plan.
- Evaluate the existing access control and security requirements and develop a plan needed to meet existing TSA requirements.
- Identify the demand for terminal support facilities such as rental car facilities (parking, Quick Turn Around (QTA) facilities, etc.).

The major planning considerations for this Master Plan are shown on **Exhibit 1-2: Major Airport Planning Considerations**.



Planning Objectives

Based on the background and planning considerations, the planning objectives for this study are listed below:

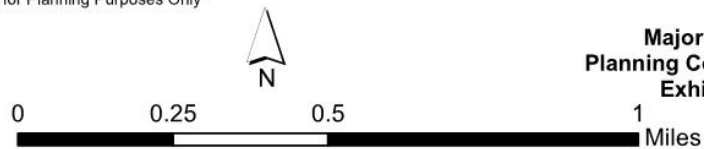
- Formulate a clear understanding of the airport's role in the State of North Dakota and the United States using existing roles defined by the state system plan and National Plan of Integrated Airport Systems (NPIAS). The plan will also identify types of aircraft and aviation activities it is expected to serve and specifically identify the most critical aircraft.
- Develop an integrated, long-term airport development plan that addresses the functional locations and conceptual layouts of facilities such as cargo, corporate hangars, airport support buildings, parking, general aviation development, taxiways, navigational aids (NAVAIDs) and terminal building along with terminal support functions.
- Justify the proposed concepts and alternatives considering technical, economical, and environmental policies and standards.
- Provide an Airport Layout Plan (both paper and electronic) identifying existing and proposed airport development.
- Establish a realistic schedule for the implementation of the development proposed in the plan, particularly the short-term capital improvement program. For complex projects the implementation plan will include project phasing.
- Considering probability and availability of local, state and federal funding, develop an achievable financial plan to support the implementation schedule.
- Identify subsequent environmental evaluations that may be required before a proposed project is approved.



Exhibit 1-2 – Major Airport Planning Considerations



*Intended for Planning Purposes Only



**Major Airport
Planning Considerations
Exhibit 1-2**

Master Plan Process

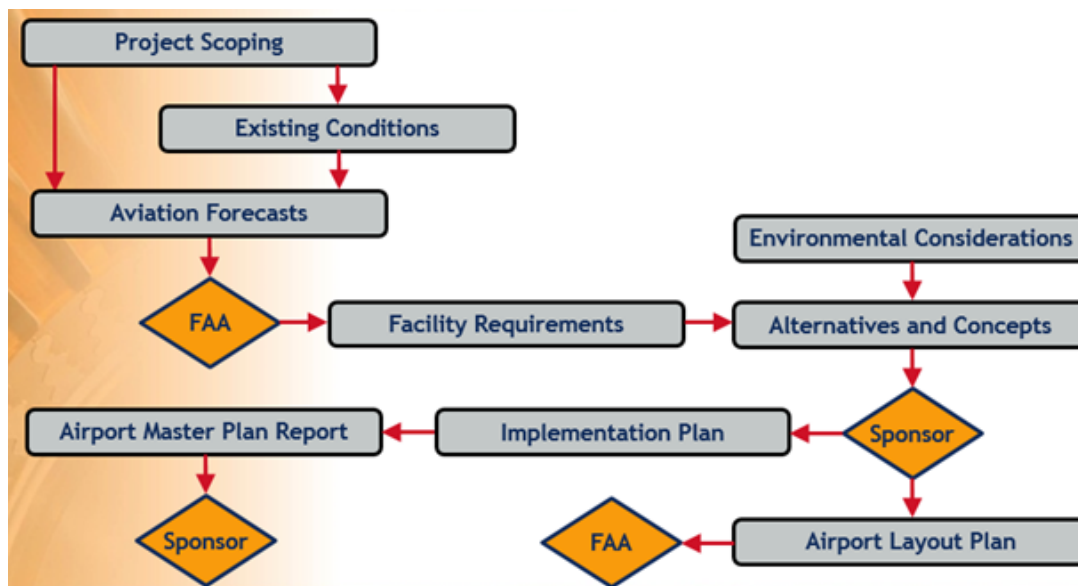
Guidelines for completing a Master Plan are set forth in [FAA Advisory Circular 150/5070-6B](#). Each master plan study scope and level of effort is customized to fit each individual airport's needs and address critical issues. The recommendations made in the study allow airports to address key issues to allow for safety, capacity and compatibility to meet airport demands and community needs. Plans are flexible to provide demand-driven triggers for improvements.

The Airport Master Planning process involves several coordinated steps. The master plan study for Minot International Airport consists of the following elements:

- **Pre-Planning** - Airport development concerns are identified and planning objectives prepared to address these issues. An overall vision for the study is formulated that will guide the process.
- **Inventory of Existing Conditions** - Overview of airport setting, infrastructure and assets which includes airside, landside and support facilities; airspace, navigational aids and airport access.
- **Forecast of Aviation Demand** - Using established forecasting methods, estimate current and project future airport activity for general aviation, air cargo, and passenger enplanements.
- **Demand/Capacity Analysis and Facility Requirements** - Compare the existing capacity with the future demand and identify the facility requirements to satisfy the aviation safety, capacity and compatibility needs.
- **Alternatives Development and Evaluation** - Identify and evaluate options considering both on-airport and off-airport impacts consistent with the study goals and objectives. A preferred alternative is selected.
- **Environmental Overview** - Provide an overview of anticipated environmental impacts as part of the development of alternatives.
- **Implementation Plan** - Provide a comprehensive plan for implementation of the preferred alternative including project triggers, sequencing, and cost estimates.
- **Airport Layout Plan** - Document the existing and planned airport facilities through an Airport Layout Plan drawing set, including electronic ALP (eALP) data, approved by the airport sponsor, state and FAA.
- **Stakeholder and Public Involvement** - Prepare and execute a plan to engage important airport stakeholders and the public throughout the study to gather their input and address their concerns.



Exhibit 1-3 - Airport Master Planning Process Flowchart



Study Documentation & Approvals

The Master Plan Update was divided into chapters to document airport planning data, analysis, findings and recommendation of the study. The chapters included in the narrative report are the following:

- Chapter 1 - Introduction
- Chapter 2 - Existing Conditions
- Chapter 3 - Forecasts
- Chapter 4 - Facility Requirements
- Chapter 5 - Alternatives Development and Evaluation
- Chapter 6 - Implementation
- Chapter 7 - Environmental Review
- Chapter 8 - Airport Layout Plan

Each narrative report chapter will be prepared and distributed to the Minot International Airport staff for initial review. After Airport staff review, each draft chapter will be made available to key airport stakeholders for input prior to a final review and approval by the Airport. Each approved final draft chapter will then be published on the Airport's website for any final public comments. FAA approval is required for the aviation activity forecasts and Airport Layout Plan.

In addition to the chapters there are a number of appendices¹ in this Master Plan. The list of appendices are as follows:

- Appendix A - Glossary of Terms
- Appendix B - Master Plan Process
- Appendix C - Public Involvement
- Appendix D - Airport Classification
- Appendix E - Airport Funding
- Appendix F - Airport Background

¹ The lettering of appendices is based on a KLJ standard structure for Airport Master Plans and therefore some appendices letters may not be used depending on the specific project.



- Appendix G - Airfield Pavements
- Appendix H - Airfield Design
- Appendix I - General Aviation & Other Users
- Appendix J - Support Facilities
- Appendix K - Navigational Aids
- Appendix L - Airspace and Instrument Approaches
- Appendix N - Disposition of Former Airline Terminal Building
- Appendix R - Alternatives
- Appendix T - Terminal Facilities
- Appendix U - Solid Waste Management Plan

In addition, an Executive Summary report will be prepared at the end of the master plan study to concisely document the recommendations of the study. This document will be distributed to airport stakeholders and made available on the Airport's website. The Airport Layout Plan was submitted to FAA for review and approval in July 2018.

Public Involvement

Public involvement is a key component to the successful development of an Airport Master Plan study. The purpose is to encourage information sharing and feedback from airport stakeholders including the airport owner, airport users/tenants, local government officials, resource agencies, elected and appointed officials and the general public. Public involvement provides valuable input to assist the airport owner in decision making and develop consensus on study conclusions.

Airport focus groups were established to provide input throughout the life of the study. The purpose of establishing focus groups was to facilitate group discussion and feedback from stakeholder groups. The sponsor chose this method over a technical advisory committee made up of stakeholder representatives. Focus groups represented the following airport stakeholders:

- General public
- Local Government
- Airport/Airlines/TSA/FAA Technical Operations
- Air Cargo
- General Aviation and Airfield Tenants
- Terminal Tenants

Focus groups were invited and attended kickoff meetings with the purpose of providing a summary of airport inventory items and planning considerations. These meetings were held on August 3-5, 2015. Through the process, focus group and public meetings were conducted. These included focus group meetings on September 16, 2016 and December 6, 2017. Public Open House meetings were conducted October 19, 2016 and December 6, 2017. See **Appendix C - Public Involvement** for copies of public involvement meeting agendas and summaries.

Conclusion

This Airport Master Plan Update for the Minot International Airport provides the City of Minot with a usable guidance document to assist with decisions regarding airport capital improvements to meet aviation demands for the foreseeable future. As with any planning study, assumptions made are subject to change due to unpredictable internal and external events. For this reason, this study should be reviewed periodically to verify project scope and triggering events are still valid to meet the airport needs.