Chapter 1
Introduction
Master Plan Update

Nogales International Airport
Santa Cruz County

April 2002

Table of Contents
Chapter 1 Introduction

CHAPTER 1 INTRODUCTION 1

1.1 Study Background 1

1.2 Study Purpose 1

1.3 Preliminary Goals and Objectives 1

1.4 Issues 2

1.5 Study Overview 3

CHAPTER 1 INTRODUCTION

1.1 STUDY BACKGROUND

Santa Cruz County, with a grant from Arizona Department of Transportation (ADOT) Aeronautics, initiated a Master Plan study on February 28, 2000. Once adopted, the new Plan will supersede the July 1992 Master Plan. The 1992 Plan presented aviation forecasts and proposed development through 2010. The 1992 Plan projected growth from 30 based aircraft and 17,410 operations in 1990 to 43 based aircraft and 25,980 annual operations in 2000. In comparison, actual based aircraft and annual operations in 1999 totaled 36 and 27,754, respectively. Thus, based aircraft demand is below previous projection (16%) while operations demand is above previous projections (7%). However, the airport and surrounding community has experienced development and changing conditions since the previous Master Plan which will be reviewed as part of this master planning effort to determine to what extent this impacts the future of Nogales International Airport.

Since this study was initiated in 2000, the Plan uses 1999 as the base year for the collection of socioeconomic and aviation activity data — the latest "complete" year. The base year represents the "existing conditions" for the study.

1.2 STUDY PURPOSE

The purpose of this study is to update the July 1992 Airport Master Plan. This master plan is designed to be responsive to the current goals and objectives of the Nogales International Airport. The study provides guidelines for the twenty-year master planning future that will satisfy aviation demand, support land use compatibility planning with community development plans, and minimize environmental impacts.

The Master Plan should serve as a tool to enable Santa Cruz County to make aviation investment plans and ensure that airport facilities remain viable in providing long-term aviation benefits to the community.

1.3 PRELIMINARY GOALS AND OBJECTIVES

This section summarizes the airport master planning goals and associated objectives established by the Planning Advisory Committee (PAC) to meet community guidelines, address relevant public concerns, and consider the different interests and factors that exist at the airport. These goals and objectives were used throughout the study to guide the work effort.

Goal: To provide airport facilities and services for all users in a fiscally responsible manner that maximizes safety, efficiency, and opportunity for use.

Objective: To develop the airport in a manner that balances the need to conform to physical design standards as established by federal, state, and local agencies, with community needs and the financial constraints.

To document rationale for recommendations through a complete investigation of concepts and alternatives on technical, economic, and environmental grounds.

To establish an action plan for the state and federal future capital improvement programs.

Goal: To produce a plan that supports economic development and expansion at the airport to serve the community and the region.

Objective: To identify facility needs and an implementation plan to develop a joint customs facility (U.S. and Mexico).

To provide a cursory review of other aviation-related opportunities for economic development at the airport.

Goal: To develop aviation demand forecasts that are responsive to expected socioeconomic factors and demand levels in the Nogales area.

Objective: To develop estimates of short- (2005), intermediate- (2010), and long-term (2020) aviation activity levels at Nogales. To identify the possible characteristics of future air travel demand.

Goal: To ensure airport compatibility with local land use patterns and plans.

Objective: To define airspace requirements of the airport and identify existing and potential obstructions to these.

To identify on-airport land use and assess their impacts on the contiguous areas.

To identify potential conflicts between Airport use and development related to adjacent land use.

Goal: To produce a plan for airport development that meets the needs and desires of the community it serves.

Objective: To develop a public awareness of the airport planning and development process.

To encourage and utilize comments from all sectors of the aviation community in developing an airport master plan update that can be adopted, endorsed, and implemented.

To ensure that the public, along with federal, state, and local officials, have an opportunity to participate in the decision-making process during the development of the plan.

To develop a phased program of specific airside and landside facility improvements to accommodate the forecasts of future aviation demand for Nogales.

1.4 ISSUES

Airport issues were identified during the initiation of the master planning effort to ensure that the PAC and public had an early opportunity to provide input into the master planning

process. This effort also provided the necessary information to the members of the PAC and consultant team to guide the data collection process.

This section summarizes the preliminary identification of airport issues to be addressed in the Airport Master Plan Update. Additional issues evolved during the planning process.

A. *Runway 3 End Grading.* It is estimated that Runway 3 end's safety area may not meet the proper grading and dimensional criteria in accordance with FAA standards for the type of aircraft served at the airport.

B. *Displaced Threshold.* Aircraft arriving on Runway 21 have been landing well before the Runway 21 displaced threshold. The master plan needs to reassess the location of this displaced threshold. Further, it may be necessary to look at the need for a displaced or relocated threshold on Runway 3 end if the runway safety area issue remains unresolved.

C. *Demand for Aircraft Hangars.* The airport has received requests to construct additional hangars. The master plan needs to assess the magnitude, and the best location for, this future development.

D. *Crosswind Runway.* Airport users have expressed concern over the difficulty in landing on Runway 3-21 during crosswind conditions. The master plan needs to review the most current wind data recordings available and assess the need for a crosswind runway.

E. *Land Use/Industrial Park.* The airport has property along State Route 82 and east of the runway that presents an opportunity for industrial/commercial development. Future airport facility needs on the airport should include consideration for this possibility while ensuring that adequate property is reserved for aviation purposes.

F. *Water Rights.* The County's water resources need to be reevaluated to determine whether the existing and future airport needs can be met.

G. *Through-the-Fence.* This type of operation may be proposed by an adjacent landowner. The master planning process needs to address the issues surrounding this type of arrangement and the FAA's concerns for conducting such operations.

H. *Airport Property Boundary.* The existing airport boundary has not been properly recorded. Once accomplished, the County will provide the official boundary for use in the airport layout plan drawings.

I. *Joint Customs.* The airport currently provides U.S. Customs to airport users. However, there is a need to expand this to a joint customs facility to accommodate Mexican Customs since any aircraft taking off from Nogales for Mexico must land at the first port of entry to go through Mexican Customs.

1.5 STUDY OVERVIEW

The study approach was designed with guidance from the FAA Advisory Circular 150/5070-6A, Airport Master Plans. This approach requires a series of interdependent steps for systematic development of the airport master plan.

This master plan is responsive to the goals and objectives of the Nogales International Airport and provides guidelines for the twenty-year master planning future which will satisfy aviation demand, support land use compatibility planning through integration with

community development plans, and minimize environmental impacts to the extent possible. The work program was organized according to the following elements.

Element	Description
1	Study Initiation
2	Inventory
3	Aviation Demand Forecasts
4	Demand Capacity and Facility Requirements
5	Alternative Analysis
6	Environmental Evaluation
7	Land Use Analysis
8	Airport Plans
9	Airport Development Schedule and Financial Analysis
10	Master Plan Documents

The first task, Study Initiation, concluded with the preparation of this chapter – Chapter 1, Introduction.

Chapter 2
Inventory
Master Plan Update

Nogales International Airport
Santa Cruz County

April 2002

Table of Contents
Chapter 2 – Inventory

CHAPTER 2 INVENTORY 1
2.1 Airport History 1
2.2 Development history 1
2.3 Airport setting 3
2.4 Airport facilities 4
2.4.1 Airside 5
2.4.2 Landside 8
2.5 Aviation activity 12
2.5.1 Based Aircraft 14
2.5.2 Operations 15
2.6 Traffic control and airspace 16
2.6.1 Procedures 16
2.6.2 Airspace 16
2.7 Socioeconomic Factors 17
2.7.1 Population 17
2.7.2 Demographics 18

List of Figures

Figure 2-1 Airport Location Map 3
Figure 2-2 Airport Vicinity Map 4
Figure 2-3 Existing Airport 6
Figure 2-4 Airspace 17

List of Tables

Table 2-1 Taxiways 7
Table 2-2 Aircraft Approach Category 13
Table 2-3 Airplane Design Group 14
Table 2-4 Based Aircraft 14
Table 2-5 Total Operations 15
Table 2-6 Itinerant Operations 15
Table 2-7 Local Operations 15
Table 2-8 Population 18
Table 2-9 Population Demographics – Age Groups 18
Table 2-10 Population Demographics – Race Origin 19