
Technical Report

NEBRASKA AVIATION SYSTEM PLAN

Prepared for:

NEBRASKA DEPARTMENT OF AERONAUTICS

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with

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TABLE OF CONTENTS

CHAPTER ONE – CRITERIA AND BENCHMARKS

DEMAND MEASUREMENT.....	1-2
SYSTEM PERFORMANCE MEASUREMENT.....	1-3
Physical.....	1-3
Access.....	1-4
Economic.....	1-4
Social/Cultural.....	1-5
PRIORITIZATION.....	1-5

CHAPTER TWO – INVENTORY

AVIATION DATA.....	2-1
SOCIOECONOMIC AND DEMOGRAPHIC DATA.....	2-3
Population.....	2-3
Employment.....	2-3
Income.....	2-5
SURVEYS.....	2-7
Business Survey.....	2-7
Medical Facility Survey.....	2-11
AIRPORT DEVELOPMENT.....	2-12

CHAPTER THREE – FORECASTS

RECENT COMMERCIAL TRENDS.....	3-1
ANTICIPATED FUTURE COMMERCIAL TRENDS.....	3-3
TRENDS AFFECTING GENERAL AVIATION AIRPORTS.....	3-5
Aircraft Shipments and Billing.....	3-6
Active Pilots.....	3-7
Aircraft Fleet.....	3-9
Business Use of General Aviation Aircraft.....	3-14
NEBRASKA AVIATION TRENDS.....	3-15
Total Aircraft Operations.....	3-16
Total Based Aircraft.....	3-16
Total Enplanements.....	3-17

CHAPTER FOUR – DEMAND ANALYSIS

DEMAND FACTOR EVALUATION.....	4-1
Demand Factors.....	4-2

Weight Assignment.....	4-2
Rank and Data Sources.....	4-2
Access.....	4-2
Economic.....	4-3
Physical.....	4-3
Social/Cultural.....	4-4
Results of Demand Evaluation.....	4-4
AIRPORT FUNCTIONAL LEVELS.....	4-7
Aviation Demand Classification Definitions.....	4-8
AIRPORT REFERENCE CODE (ARC) SYSTEM.....	4-12
FACILITY AND SERVICE STANDARDS.....	4-13

CHAPTER FIVE – SYSTEM ADEQUACY ANALYSIS

ACCESS.....	5-2
Airports Serving Population Centers.....	5-2
Airports Accommodating Medical Flights.....	5-11
All-Weather/Instrument Coverage.....	5-14
Surface Access of Airports.....	5-17
ECONOMIC.....	5-17
Airports Serving Economic/Trade Center.....	5-17
Airports Meeting Business/Air Cargo Needs.....	5-20
Airports Meeting Agricultural Aviation Needs.....	5-23
PHYSICAL.....	5-25
Airport Meeting Minimum Facility and Service Standards.....	5-25
Functional Classification Facility and Service Standards Summary.....	5-27
National Airports.....	5-27
Regional Airports.....	5-28
Local Airports.....	5-29
Limited Airports.....	5-30
Specific Facility and Service Standards.....	5-31
Runway Length.....	5-31
Runway Width.....	5-33
Crosswind Runway.....	5-34
Taxiway.....	5-34
Navigational Aids (NAVAIDs).....	5-34
Lighting.....	5-35
Weather.....	5-36
Visual Approach Aids.....	5-37
Services.....	5-38
Fixed-Base Operators (FBO).....	5-39
Fuel.....	5-40
Facilities.....	5-41
Ground Access To Airport.....	5-43

Airports Meeting FAA Operational Capacity Guidelines.....	5-44
Airports Meeting PCI Goals.....	5-45
SOCIAL/CULTURAL.....	5-49
Airports Serving Tourism/Cultural Centers.....	5-49
Airports Serving More Isolated Areas.....	5-51

CHAPTER SIX – OPTIONS ANALYSIS

ACCESS OPTIONS.....	6-1
Airports Serving Population Centers.....	6-1
National.....	6-2
Regional.....	6-2
Local.....	6-5
Limited.....	6-7
Airports Accommodating Medical Flights.....	6-7
All-Weather/Instrument Coverage.....	6-8
Surface Access of Airports.....	6-9
ECONOMIC OPTIONS.....	6-9
Airports Serving Economic/Trade Centers.....	6-9
Airports Meeting Business/Air Cargo Needs.....	6-10
Airports Meeting Agricultural Aviation Needs.....	6-10
PHYSICAL OPTIONS.....	6-10
Airports Meeting Minimum Facility and Service Standards.....	6-11
Airports Meeting FAA Operational Capacity Guidelines.....	6-11
SOCIAL/CULTURAL OPTIONS.....	6-12
RESULTS OF OPTIONS ANALYSIS.....	6-12

CHAPTER SEVEN – RECOMMENDATIONS

ACCESS RECOMMENDATIONS.....	7-1
Airports Serving Population Centers.....	7-1
Airports Accommodating Medical Flights.....	7-3
All-Weather/Instrument Coverage.....	7-3
Surface Access of Airports.....	7-4
ECONOMIC RECOMMENDATIONS.....	7-4
Airports Meeting Business/Air Cargo Needs.....	7-4
Airports Meeting Agricultural Aviation Needs.....	7-5
Recommended System.....	7-5
PHYSICAL RECOMMENDATIONS.....	7-12
Airports Meeting Minimum Facility and Service Standards.....	7-19
Runway Length.....	7-19
Runway Width.....	7-20
Crosswind Runway.....	7-21
Taxiway.....	7-22

Navigational Aids (NAVAIDs).....	7-22
Lighting.....	7-23
Weather.....	7-24
Visual Approach Aids.....	7-25
Services.....	7-25
Fixed-Base Operators/Maintenance.....	7-26
Fuel.....	7-27
Facilities.....	7-27
Ground Access.....	7-28
Airports Meeting FAA Operation Capacity Guidelines.....	7-29
Airports Meeting PCI Goals.....	7-29
SOCIAL/CULTURAL RECOMMENDATIONS.....	7-31
RELIEVER AIRPORT ANALYSIS.....	7-31
Blair.....	7-33
Millard.....	7-33
North Omaha.....	7-34
Plattsmouth.....	7-34
Council Bluffs, Iowa.....	7-35
Summary of Reliever Analysis.....	7-35
AIRPORTS IN THE NPIAS.....	7-35
CAPITAL IMPROVEMENT COSTS.....	7-37
HISTORICAL AIRPORT FUNDING.....	7-39
CURRENT FUNDING.....	7-39
Federal.....	7-39
Air-21.....	7-41
State Funding.....	7-42
Local and Private.....	7-43
General Fund Revenues.....	7-44
Bond Issues.....	7-44
Airport-Generated Revenues.....	7-45
Private Funds.....	7-45

LIST OF EXHIBITS

CHAPTER TWO – INVENTORY

2-1	Existing.....	2-2
2-2	Population Densities.....	2-4
2-3	Employment Densities.....	2-6

CHAPTER FOUR – DEMAND ANALYSIS

4-1	Functional Classification.....	4-11
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CHAPTER FIVE – SYSTEM ADEQUACY ANALYSIS

5-1	Population Centers with 5,000 persons.....	5-3
5-2	Population Centers & 30-minute drive times.....	5-5
5-3	National Coverage.....	5-6
5-4	Regional Coverage.....	5-7
5-5	Local Coverage.....	5-8
5-6	Limited Coverage.....	5-9
5-7	All.....	5-10
5-8	All.....	5-12
5-9	Primary Hospital Locations.....	5-13
5-10	Critical Access Locations.....	5-15
5-11	Approaches.....	5-16
5-12	Weather Systems.....	5-18
5-13	Access Roads.....	5-19
5-14	Net Taxable Retail Sales.....	5-21
5-15	Economic Centers & Drive Times.....	5-22
5-16	Air Cargo Locations.....	5-24
5-17	Aerial Spraying.....	5-26
5-18	National Airports’.....	5-28
5-19	Regional Airports’.....	5-29
5-20	Local Airports’.....	5-30
5-21	Limited Airports’.....	5-31
5-22	Runway Length.....	5-32
5-23	Runway Width Standards.....	5-33
5-24	Runway Width.....	5-33
5-25	Taxiway.....	5-34
5-26	Navigational Aids.....	5-35
5-27	Lighting.....	5-36
5-28	Weather.....	5-37
5-29	Visual Approach Aids.....	5-38

5-30	Services.....	5-39
5-31	FBOs/Maintenance.....	5-40
5-32	Jet A Fuel.....	5-40
5-33	AvGas Fuel.....	5-41
5-34	Fuel Facilities.....	5-42
5-35	Facilities.....	5-43
5-36	Ground Access to Airport.....	5-43
5-37	Operations/ASV 2000.....	5-45
5-38	Primary Runway PCI.....	5-46
5-39	Primary Runway PCIs.....	5-47
5-40	Primary Taxiway PCI.....	5-46
5-41	Apron PCI.....	5-48
5-42	Analysis PCI Apron.....	5-49
5-43	Apron PCIs.....	5-50

CHAPTER SIX – OPTIONS ANALYSIS

6-1	National & Regional.....	6-3
6-2	National, Regional, & Local.....	6-6

CHAPTER SEVEN – RECOMMENDATIONS

7-1	Agricultural Intensities.....	7-6
7-2	National Airports.....	7-9
7-3	Regional Airports.....	7-10
7-4	Local Airports.....	7-11
7-5	Limited Airports.....	7-13
7-6	Airports Delineated.....	7-14
7-7	Population Centers.....	7-15
7-8	Medical Accessibility.....	7-16
7-9	Critical Access Hospitals.....	7-17
7-10	Economic Trade Center.....	7-18
7-11	Runway Length.....	7-20
7-12	Runway Width.....	7-21
7-13	Taxiway.....	7-22
7-14	Navigational Aids.....	7-23
7-15	Lighting.....	7-24
7-16	Weather.....	7-24
7-17	Visual Approach Aids.....	7-25
7-18	Services.....	7-26
7-19	Jet A Fuel.....	7-27
7-20	AvGas Fuel.....	7-27
7-21	Facilities.....	7-28
7-22	Ground Access to Airport.....	7-29

7-23	Primary Runway PCI.....	7-30
7-24	Primary Taxiway PCI.....	7-30
7-25	Apron PCI.....	7-30

LIST OF TABLES

CHAPTER TWO – INVENTORY

2-1	Airport Ownership.....	2-20
2-2	Airside Facilities – Primary Runway.....	2-22
2-3	Airside Facilities – Secondary Runway.....	2-24
2-4	Terminal Building Size.....	2-26
2-5	Airport Acreage and Hangar Facility Capacity.....	2-28
2-6	Landside Facilities – Aircraft Parking.....	2-30
2-7	Landside Facilities – Automobile Parking and Roadways.....	2-32
2-8	Airport Fuel Facilities.....	2-34
2-9	Airport Facilities.....	2-36
2-10	Airport Facilities.....	2-38
2-11	On-Airport Aviation Services.....	2-40
2-12	On-Airport Aviation Services.....	2-42
2-13	Current Airport Activity – 1999.....	2-44
2-14	1999 Nebraska County Population Estimates.....	2-46
2-15	Nebraska Employment by Industry (In Thousands).....	2-48
2-16	History of Nebraska Public-Use Airport Sites.....	2-13

CHAPTER FOUR – DEMAND ANALYSIS

4-1	Aviation Demand Rank of Weighted Factors.....	4-4
4-2	Nebraska Aviation Demand Classifications.....	4-9
4-3	Aircraft Classification Standards.....	4-12
4-4	Minimum Facility Standards.....	4-13

CHAPTER SEVEN – RECOMMENDATIONS

7-1	Recommended Airport System.....	7-7
7-2	Airport Funding Needs.....	7-38
7-3	Funding Summary for Nebraska Airport Projects.....	7-39
7-4	Historical AIP Funding (Billions).....	7-40
7-5	Comparison of FY 2000 and 2001 (AIR-21) AIP.....	7-41

CHAPTER 1

CRITERIA AND BENCHMARKS

CHAPTER 1 - CRITERIA AND BENCHMARKS

In 2000, the Nebraska Department of Aeronautics initiated an update to the Nebraska Aviation System Plan (NASP). The previous system plan, completed in 1992, was entitled the *Nebraska State Airport System Plan (SASP)*. Since completion of the 1992 study, conditions in Nebraska and in the air transportation industry have changed; these changes warrant an update of the plan. There are three primary purposes for the plan update:

- ❑ To identify and analyze the aviation assets and needs of the State to assure that aviation properly performs its role to support Nebraska's economy and its citizens;
- ❑ To provide continued guidance for development of a system of airports that meets the State's existing and future air transportation needs; and
- ❑ To build consensus among public policymakers and airport sponsors so that the plan's recommendations can be more readily accomplished.

The NASP is comprised of a series of steps, the first of which is to identify a set of system measurement criteria that characterize an adequate airport system for Nebraska and then establish a vision for development of the system. Measurements will be identified to evaluate the adequacy of the State's airport system from a qualitative and quantitative standpoint. The measurements will be used to evaluate the system's performance and to develop specific benchmarks or targets to evaluate and guide the development of the system. Options for resolving system deficiencies will focus on meeting identified targets. Finally, a recommended plan will be developed to provide guidance on the airports and facilities that are needed to meet target benchmarks, and specific actions will be identified to direct the implementation of the recommended plan.

Subsequent chapters of the NASP include the following:

- ❑ Inventory
- ❑ Forecasts
- ❑ Demand Analysis
- ❑ System Adequacy Analysis
- ❑ Options Analysis
- ❑ Recommended Plan

A Planning Advisory Committee (PAC) has been assembled by the Department to provide input and guidance for the study. The PAC is comprised of volunteer members with a broad base of knowledge and includes representatives from the following:

- ❑ Federal Aviation Administration (FAA)
- ❑ Nebraska Aeronautics Commission
- ❑ Nebraska Department of Aeronautics
- ❑ Commercial service airports
- ❑ General aviation airports
- ❑ Rural Development Commission
- ❑ Commercial airlines
- ❑ Higher education institutions

- ❑ Department of Economic Development
- ❑ Department of Health & Human Services
- ❑ Governor’s Policy Research Office
- ❑ Department of Roads
- ❑ Fixed base operators (FBOs)

This committee provides the Department with outside input into the system planning process. It also provides the Consultant Team with first-hand knowledge of the key factors impacting aviation demand and needs throughout Nebraska. The PAC members are responsible for reviewing the Consultant’s documentation, providing comments, and attending meetings to discuss the study’s progress and findings. The full list of PAC members is provided at the conclusion of this chapter.

In addition to the PAC, public input and involvement will be sought during the NASP. Six public informational meetings related to the NASP are scheduled to take place throughout Nebraska. The purpose of the meetings will be to provide information on the study’s progress and findings, and also to seek comments from aviation users, municipalities, airport owners/sponsors, and the public regarding their long-term vision for the airport system.

DEMAND MEASUREMENT

For this study, measurement of the Nebraska airport system was completed using a two-pronged approach. First, existing demand for aviation services requires measurement. Through the evaluation of demand for aviation services, airport requirements are established. The 1992 SASP used a “clean slate” approach to determine what the demand for aviation services was, and then compared that demand to the locations of the State’s existing airport facilities. This same approach, adopted and updated from the 1992 SASP, is used in this Update to analyze current demand for aviation services. This process leads to evaluating airport roles and stratification of the airport system. The second prong of the approach will measure the airport system’s adequacy and will lead to an overall evaluation of Nebraska’s airport system needs.

Demand for aviation services is influenced by factors that are related to aviation, as well as factors that are unrelated. It was determined that both aviation and non-aviation factors should be considered to achieve a balance in evaluating airport needs throughout the State. Data were evaluated for their availability and reliability to provide sufficient detail to support comparison of the various demand factors. The demand factors that were identified through meetings with the Department staff and PAC, review of other similar studies, review of the 1992 SASP, and research of available data sources included the following:

- ❑ Number of based aircraft
- ❑ Population
- ❑ Medical facilities
- ❑ Agricultural use of aviation
- ❑ Community economic activity
- ❑ Business use of aviation
- ❑ Distance to metropolitan areas (over 100,000)

The evaluation of these demand factors will provide an analysis of the need for airport facilities throughout the State. Once demand is measured, the existing roles of the airports will be examined and a stratification of existing airports conducted. This stratification will set a baseline for analysis of the State’s airport system. As additional data on these demand factors becomes available and the need for the re-evaluation of

airport roles is determined, the stratification of the airport system can be retraced to determine if airport role changes are necessary based on changes in demand.

While information was sought at the community level for each of the demand factors, some data were only available at the county level. These demand factors will be evaluated in a subsequent chapter.

SYSTEM PERFORMANCE MEASUREMENT

Once the demand for aviation services is identified, the existing system's performance and ability to meet this demand is evaluated. Evaluation of the system's performance requires development of **goals** and **objectives** for the airport system. Goals are defined as conditions to be achieved, but are not specific in nature so as to develop a process to achieve them. Goals or criteria are the major categories considered to be important for analyzing an airport system. Objectives are used as the measurement tools to define goals in a quantifiable manner. Objectives are referred to in this study as measurements. Each measurement is analyzed to determine how the Nebraska aviation system is performing.

The process to establish system goals or performance criteria was based initially on the 1992 study and FAA guidelines; the process was supplemented through the review of performance criteria used by other states and planning agencies. With an initial base for performance criteria categories to be used in this study, input from the PAC was sought during the kick-off meeting for the study. This input was used to refine and expand the performance criteria. Initially, three major goal or performance criteria categories were identified to describe the general characteristics that define a good aviation system. Through discussions at the initial PAC meeting, a fourth goal category was added.

The four general system performance criteria/goal categories that were established through this process included the following:

- ❑ Physical
- ❑ Access
- ❑ Economic
- ❑ Social/Cultural

These goal or performance criteria will be used in subsequent chapters to measure the system's performance. Airport functional levels that are reflective of each airport's role in the State Airport System will also be determined through this process.

The performance categories and the specific measurements/objectives for each are described in the following sections.

Physical

An important goal of any aviation system is to provide physical facilities to meet the needs of the users. The mission of airports is to provide quick, convenient, and safe transportation of people and goods. An adequate airport system needs certain facilities to process the movement and storage of aircraft and to meet the needs of the people who use airports.

Physical performance of the aviation system is determined by examining the ability of the airports to meet at least minimum standards. Minimum standards can be defined in terms of facilities and services and will be

defined separately for the various airport functional levels and associated airport roles that are identified for the Nebraska aviation system. Providing a system of airports that can serve varying types and volumes of aviation demand is an important evaluation factor in determining the performance of the system.

The measurements/objectives that will be examined related to physical performance of the system include the following:

- ❑ Airports meeting minimum facility standards
- ❑ Airports meeting minimum service standards
- ❑ Airports meeting FAA operational capacity guidelines
- ❑ Airports with adequate PCI ratings

Access

Providing adequate access is an important goal for Nebraska’s airport system. Accessibility to an airport can be defined in terms of access from the ground and from the air. Air access relates to a number of factors, including the ability to access airports during all weather conditions and the location of airports to respond to air emergencies. Ground access is usually defined in terms of the time it takes for an aviation user to reach an airport. Airports must be accessible via the road network and must be located in proximity to users. The FAA, through the National Plan of Integrated Airport Systems (NPIAS), has established guidelines that can be used to evaluate the accessibility of airports.

Another aspect of airport and community accessibility is the Small Aircraft Transportation System (SATS). Nebraska, through the University of Nebraska-Omaha, is a participating member in the development of the SATS program that has been initiated through the National Aeronautics and Space Administration (NASA) and Federal Aviation Administration (FAA). SATS is the outcome of the NASA National General Aviation Roadmap, wherein the goal is to bring new technologies that will improve air access to small communities. The vision is that travel between remote communities and transportation centers in urban areas will become greater with the implementation of new technologies that set the stage for safe, affordable, and user-friendly small, personal aircraft that will be used to transport someone from “doorstep to destination.”

It is anticipated that Nebraska’s airport system will be developed such that it will promote the SATS concept. At the current time, however, minimum facility standards have not yet been developed to determine the ability of the airports to meet SATS objectives.

Specific measurements that will be analyzed for the Nebraska airport system in terms of accessibility include the following:

- ❑ Airports serving population centers
- ❑ Airports accommodating medical flights
- ❑ All-weather coverage to airports throughout the State
- ❑ Adequate surface access to airports

Economic

An important goal of an airport system is to support the economic growth and diversification of a state or regional economy. It is now widely recognized that airports are not just about transportation. Travel by air is essential with the movement toward a global economy. As economies in Nebraska continue to change and evolve, the airport system should support the State, local, and regional economies in terms of providing

adequate facilities and services. In addition, local financial resources should be available to support the airport as it is improved to meet economic objectives and needs.

Economic measurements that will be examined as part of the evaluation process include the following:

- Airports to serve economic/trade centers
- Airport services to meet business user needs
- Airports to meet air cargo needs (freight and mail)
- Airports to meet agricultural needs

Social/Cultural

A fourth category, social/cultural, was added through discussion with this study's Planning Advisory Committee (PAC). While it was determined that an aviation system needs to meet the economic needs of the State, it is also important for aviation to support social/cultural activities that are associated with Nebraska. Tourist activities such as hunting and population migration into the State because of lifestyle choices should also be supported by the State's airport infrastructure.

Specific measurements that will be analyzed for the Nebraska airport system in terms of social/cultural include the following:

- Airports to serve tourism/cultural centers
- Airports to serve more isolated areas

PRIORITIZATION

With these general characteristics of a good aviation system established, the process to refine and prioritize each of the measurement categories was undertaken. The PAC members were asked to identify the importance of each criterion to the long-term development of Nebraska's airport system. These "importance weightings" were requested for each of the four major categories of criteria. PAC members were instructed to use a weighting of between 1 (high importance) and 4 (low importance). The tabulated, cumulative results from this process resulted in the following ranking of the general criteria categories; categories are shown below as ranked by the study's PAC from most important to least important:

- Access
- Economic
- Physical
- Social/Cultural

These results indicate that access factors should be the most important of those measures used to evaluate and direct the development of system airports. This measure should also be used as a primary factor in the stratification of the airport system. This stratification will be used to determine the various functional roles of the airports in the Nebraska system. These weighted rankings, shown above, will be used to establish functional levels of importance for the system airports. The weighted criteria will also be used in the process to determine the adequacy the Nebraska airport system.

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